THE COMPLETE WILDFOWLER

ASHORE AND AFLOAT

STANLEY DUNCAN
AND
GUY THORNE

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THE COMPLETE WILDFOWLER

THE BIRDS OF THE BRITISH ISLANDS.

By CHARLES STONHAM, C.M.G., F.R.C.S.

With over three hundred photogravures by L. M. MEDLAND. Twenty parts, Royal 4to, each 7s. 6d. net. Five volumes, buckram gilt, each 36s. net; half vellum, gilt, each 42s. net.

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DUCK SHOOTING

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BY
STANLEY DUNCAN
AND
GUY THORNE

FULLY ILLUSTRATED
WITH PRACTICAL DRAWINGS AND DIAGRAMS
AND WITH MANY ILLUSTRATIONS
IN HALF-TONE

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PREFACE

It is perhaps the fact of collaboration which makes a preface to a book of this sort necessary.

More than two years ago Mr. Stanley Duncan and myself agreed that a complete *Wildfowler* should be written. A good deal of material was already available, most of it consisting of Mr. Stanley Duncan's constant and valuable contributions to *The Shooting Times* and *The Field* on the subject of wildfowling, the rest being my own notes extending over a considerable period of one's sporting life. From the time of Colonel Hawker until fifteen years ago, all the published books upon wildfowling were excellent in their measure and in their day. The later books have been excellent also, but have been shorter and more in the fashion of the handbook or manual. It seemed good, therefore, to the collaborators that they should make a sustained effort to produce a book which might possibly be a standard work for a considerable period.

It will be as well to give some indication of the respective parts taken by the collaborators in the production of this work. It has fallen to me to be the general editor. It has been a labour of love and a strange relief from the continuous production of fiction.

The book, however, owes its real value undoubtedly to the work in it of Mr. Stanley Duncan, the chief organiser and honorary secretary of the Wildfowlers' Association, and a sportsman whose name is as well known to all fowlers as his genial personality and remarkable excellence with the gun is known to a certain section of them.

I myself have written the introductory parts and the chapters dealing with guns and ammunition, "The Complete Gun-Room," etc. etc. The important branch of shore shooting and the chapters on punt-gunning have been written by Mr. Stanley Duncan, though edited by me. The illustrations and diagrams are also the work of Mr. Stanley Duncan.

The ornithological part is a joint production, with the aid of many of the leading authorities upon the subject.

I have here to say, and I say it with some complacency, that the chapter upon shoulder guns was submitted to Mr. W. W. Greener himself; one or two suggestions he made I very gladly incorporated.

But I wish not only to thank him, but to flatter myself when I say that he approved of what was written. With such an imprimatur—that of the supreme expert upon guns in the whole world—I leave this part of the book to my readers with confidence.

Finally, it is owing to the kindness of Messrs. Negretti and Zambra that I have been able to conduct an exhaustive series of experiments to determine that vexed question as to what is the ideal wildfowlers' field glass.

In the chapter devoted to the wildfowler's requisites I mentioned that I had heard good reports of Messrs. Negretti and Zambra's "Minim" prism field glasses, though I had not made personal trial of them. Since writing the above I have conducted the exhaustive experiments already mentioned, and I have no hesitation in saying that the "Minim" is easily the best possible glass for wildfowling purposes. I mention this in the preface because by the time my experiments were concluded the first portion of this book had gone to press.

The book is dedicated by Mr. Stanley Duncan and myself to all wildfowlers, and more especially to those sportsmen who are members of the Wildfowlers' Association, a league which, under the presidency of Sir Ralph Payne-Gallwey, has done more for the sport of sports than anything since the days of Colonel Hawker himself.

GUY THORNE.

IN writing these preliminary remarks, I must first acknowledge the pleasure which I have derived not only from the sport of wildfowling, but also from the gathering of notes, photographs, etc., touching the subject. Had this not been so, *The Complete Wildfowler*, for my part, would not have been possible. The main object has been to amass what would be of use to the young or inexperienced wildfowler.

A new work on the sport of wildfowling requires no apology, since to the true sportsman there cannot fail to be much to interest and assist. The history of wildfowling dates back to days long before the gun. In these days it is a sport pure and simple, in which without doubt there is much to learn in many respects.

Of my several acquaintances, I express my indebtedness to my friend and wildfowling partner Mr. Thomas Waddington. It is with great pleasure I acknowledge his kind assistance in the past, and recall the many happy and enjoyable days we have spent together in pursuit of wildfowl on our vast and dreary estuaries.

My esteemed collaborator has so lucidly described the circumstances which comprise the origin and the making of this book, that I feel there is nothing further to add.

STANLEY DUNCAN.

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PART ONE

SHORE SHOOTING

CHAPTER I

WHAT WILDFOWLING REALLY IS

PUNCTUALLY at the beginning of the shooting season of each year, a certain type of journalist permits himself a little printed scorn as to the shooting of "tame pheasants," and so forth. Not knowing a pheasant from an owl, a partridge from a wild duck, or a sporting gun from a service rifle, he nevertheless talks glibly of "alleged sport" with perfect satisfaction to himself, and sighs for the "good old days" when drives were unknown, when "sportsmen *were* sportsmen," and other such twaddle.

They do not know that the modern reaping machine shears the ground so close that walking up birds becomes impossible in many instances. They do not realise that driven birds come past the sportsmen at such various speeds, heights, and angles that they offer far more difficult—and so more sporting—shots than are ever obtainable when birds rise at one's feet; they are quite unable to appreciate the enormous skill, technical experience, and knowledge of the habits of birds required to organise an ordinary partridge drive.

Shooting, which such people so easily imagine to be the easiest of all sports, and indeed hardly worth the name of "sport," is, on the contrary, the most difficult and most engrossing of all. This book is not written for the general public in the first instance, but it is conceivable that it will fall into the hands of some of them—which is one of the reasons for the above remarks. But, it may be asked, what

has this to do with wildfowling? The answer is simple. All gunners, whether wildfowlers or no, lend each other their aid and support against any common enemy. There is a free-masonry among shooters more strong and real than probably exists in any other kind of sport. Last year, for example, I was travelling from Paris to Monte Carlo. In my compartment were three other men, an Englishman, a Frenchman, and a Belgian, all of them, as it afterwards appeared, going to Monaco upon the same errand as myself —pigeon-shooting. A couple of gun-cases on the rack lasted for the whole enormous journey over France and along the Côte d'Azur, and started a conversation which commenced friendships that show no signs of diminution up to the present.

And there is another reason also for beginning this introductory chapter as I have done. It is to glorify and explain wildfowling in the most emphatic possible way, both for the layman and for those who, like the authors of this book, find in it their greatest happiness and pleasure, the Supreme thing that for us, at any rate, the material aspects of life have to offer.

For, if your sportsman in covert or on roots and stubble must be a man trained to the highest efficiency of hand and eye, a "true sportsman" in all that pertains to his craft, I have no hesitation whatever in saying that the wildfowler in order to be successful must surpass him in everything.

He must be a better shot. He must endure hardships and dangers unknown in the other branch. He must be a trained ornithologist, learned in the habits and appearance of an infinite variety of birds—and he must be many other things as well.

In the first instance, he must be a better shot. A goose and a mallard or widgeon, a plover and curlew, a redshank or godwit, all fly in entirely different ways—each bird has

a distinct and peculiar method. All these must be studied and learnt by means of long and arduous experience, and there are fifty or sixty varieties of fowl the gunner may meet with. In addition to this the fowler must generally shoot in the most uncertain lights—dusk, dawn, and moonlight. He must shoot from cramped and seemingly impossible positions, and often with a rapidity and certainty that may spoil or ensure the only shot he will obtain for many hours.

I have said that the wildfowler must endure hardships and dangers, and indeed, both of them are inseparably attendant upon him.

He must lie in wait in the bitterest cold and dark to circumvent the wariest and most cunning of created things.

Up to his waist in ice-cold waters when the touch of the lock and trigger burns like fire, prone and motionless in a frail punt upon some deep and treacherous estuary of the sea, leaving his bed at all hours of the dark to face roaring winter winds—these are some of the things the wildfowler endures and glories in enduring.

And his knowledge of the habits of his quarry must be profound. He must distinguish the myriad calls of the wild birds of marsh and sea; he must literally understand what they are saying to each other, what each individual note means to him; he must be skilled in locality, in plumage, in species; he must be able to judge exactly what this or that species of bird will do under the most varying conditions of wind and tide, in all kinds of weather and light.

Yet another point goes to the education, and must be part of the equipment of the complete wildfowler. He must have a comprehensive knowledge of guns and ammunition far more extensive than is necessary for the ordinary sportsman. The question of punt-guns with their intricate mechanism must be at his fingers' ends. He must know all about eight-bores,

single or double, ten-bores, long-chambered 12-gauge guns, and so forth.

In short, the true wildfowler is as complete a modern sportsman as can be found anywhere in the world.

One of the great charms of fowling is its uncertainty, another lies in the fact that when at last infinite patience and endurance have been rewarded, the smallest bag becomes invested with an importance and gives a thousand times greater pleasure than any comparatively easily won trophies can ever do.

"Wildfowler" of *The Field*, a legitimate descendant of grand old Colonel Hawker, has voiced these sentiments in no uncertain way. In the introduction to his book of twenty-nine years ago—long the standard work on wildfowling—he says :—

"No branch of shooting has such very ardent votaries as the art of wildfowl shooting, and the reasons for the extraordinary hold which this pursuit invariably obtains on all sportsmen who try it are not very far to seek. Firstly, it is the only sport nowadays wherein success is absolutely uncertain and totally beyond any preconceived arrangement ; secondly, you must go into decidedly wild spots, and submit to dangers of many kinds, if you wish to find the birds ; and, thirdly, there are so many ways of carrying on the pursuit that one never wearies of them all. Thus shooting, when it has wildfowl for its object, combines all the elements which tend to make of it a strictly enticing sport, since the uncertainty is so great as to keep hope always burning within one's breast, and since every branch of the calling has to be carried on in quite a distinct manner and in totally different spots, and is generally accompanied by a degree of peril which renders the pursuit perfectly fascinating. The all-round wildfowl shooter, to be a successful man, must therefore be of a buoyant nature, and not easily put out ; he must be doggedly determined, at all costs, to carry out his plans ; he must also be hardy in his constitution ; he must be a good oarsman, an excellent sailor, a good shot, and a 'knowing' sportsman, full of wrinkles and expedients ; and he must enjoy that average amount of pluck which is a *sine quâ non* in his pursuit.

"To the well-to-do educated man, the sport is of the most charm-

ing description. The strange spots where he finds himself; the lonely nature of his surroundings; the quaint cries he hears when the fowl and shore birds are about; the briny smell of the sea; the ever-varying tide; the now rough and now smooth wind; the difference in the same spots when seen first by daylight and then visited at night; the self-reliance which the wildfowl shooter must place upon his individual resources, and his perpetual struggle against all the elements combined—everything tends to make of the pursuit one which I have no hesitation in calling the most manly and the most fascinating of all the pursuits which the sportsman may addict himself to."

How true this is the wildfowler alone knows. To him many of the secrets of nature are disclosed. On the far saltings, on the lonely marshes of the sea, he has wonderful moments.

Dawns that are august in their splendour rise for him in his lonely eagerness. Keen white moonlights for him irradiate a world unknown to ordinary folk. He floats on dark, mysterious waterways, hearing sounds, whispers, strange cries and calls that no one else ever hears.

Is there a more wonderful sound in the whole of nature than that of a great skein of geese upon the wing? I think not.

Nearer and nearer it comes: the deep baying notes, the high shrill calling, like a pack of ghostly hounds in the darkling sky! The thrill of it is incommunicable, the music incomparable, and at last the full notes rush into being, and the great birds are all around. He who has heard the melancholy notes of the curlew at dawn when the marshes are waking, who listens to the mysterious whistle of the widgeon, as they pass high over his punt, and for whom a sedge of herons make their harsh calling at evening, knows much that is denied to other men.

The fowler has his own ritual, etiquette, and phraseology also. If he is punctilious in preserving the traditions of his

sport he does not allow himself any looseness of expression. He must speak of—

"A skein of geese (when flying).
A gaggle of geese (when on the water).
A herd of curlews or of swans.
A congregation of plovers.
A whisp of snipe.
A paddling of ducks (when on the water).
A team of ducks (when flying).
A spring of teal.
An exaltation of larks.
A desert of lapwings.
A company of widgeon.
A sord of mallards.
A sedge of herons.
A covert of coots. . . ."

And many other phrases and words are his also, peculiar to his sport alone.

I have endeavoured to give some slight indication of what wildfowling means to its votaries. Wildfowlers will understand, but I find no words to express its fascination to others.

But when a great goose falls to the gun, or the punt gun is fired successfully, while the "cripple-stopper" echoes its big brother . . . These are moments the gods upon Olympus never knew!

CHAPTER II

GUNS

In this chapter only the question of shoulder guns is dealt with. The large section of the book referring to punt-gunning contains the fullest and most thorough information upon punt guns that has probably ever appeared. My collaborator, Mr. Stanley Duncan, who is responsible for those chapters, is well known to be one of the greatest living authorities on this type of gun.

In writing about shoulder guns, both for the beginner and the experienced wildfowler, there are many things to be considered, one of the most important of which is the purse of the individual sportsman. Many fowlers are well-to-do, many others are not, but I trust what is said below will prove useful to both classes.

Before going into the actual question of the guns themselves some hints on gun-buying seem necessary. I have found over and over again that many practical sportsmen are strangely ignorant of, or careless about, the right way in which to purchase a gun, either new or second-hand. This is a fact which I have never been able to account for satisfactorily, but both sportsmen and leading gunmakers of the best class will endorse what I say.

In no department of gun-buying is this more patent than in the case of second-hand weapons.

In the case of a wildfowler wishing to buy a gun which has been used before, I must strongly recommend him to go nowhere for it save to firms of established reputation and who are above

suspicion. People like Messrs. W. J. Jeffery and Co., of King Street, St. James's, or Mr. William Evans, of 63 Pall Mall—the two best houses for this class of business—should alone be consulted.

I have known men buy second-hand guns from pawnbrokers, and this is a most dangerous thing to do.

Messrs. Jeffery have pointed out, and I can endorse all they say, the unwisdom of such a course. If a sportsman *does* purchase a gun from a pawnbroker, he should always take the precaution of obtaining a receipted invoice, with a clear and unmistakable statement that the gun is genuinely a second-hand one. After this his best course would be to take the weapon to a responsible gunmaker, and obtain his opinion as to the truth of the statement upon the invoice.

"For some years past certain pawnbrokers in London have been defrauding the public by selling as second-hand weapons, that they represented to be of high-class-make guns, and particularly Cordite Double Expresses, that are really cheap weapons of Belgian or Birmingham make, highly engraved in imitation of the London patterns. These guns and rifles usually are named by certain little traders in London, who make a living by supplying the pawnbrokers with guns at a trifling charge for the use of the name. Some of them even go so far as to state that they, or their ancestors, were gunmakers by appointment to some long since deceased member of the Royal Family.

"An examination of some of the pawnbrokers' lists who deal in guns will show as many as twenty or thirty guns and rifles bearing, perhaps, one of these little makers' names, and the same descriptions of guns and rifles will be found for several years back in their lists. When a gun or rifle is sold they can at once replace it with a similar one from the little dealer in a back street."

Thus a leading firm of gunmakers—Messrs. Jeffery to wit; and they further add:—

"Should any sportsman find that he has been defrauded by one of these unscrupulous dealers, his best plan is to put the matter into

FIRST PRESIDENT OF THE WILDFOWLERS' ASSOCIATION OF GREAT BRITAIN AND IRELAND

the hands of the Gunmakers' Association, who will at once take steps to secure a conviction. Any gunmaker will be pleased to give full particulars as to how to communicate with the Secretary.

"We do not, of course, accuse all pawnbrokers of fraudulent trading, but in jewellery, plate, and guns, a certain number of the fraternity plunder the public in a wholesale manner, as they sell practically all common new stuff and represent the articles as being valuable goods that have been pledged."

These are excellent general rules, and the following more important ones cannot fail to be of value.

In buying a gun, the following are the principal points that should be examined :—

1st. Barrels. If Damascus, see that the metal is free from flaws or cracks, which usually run in a spiral direction. A small spot or speck in the metal does not usually affect the strength of the barrels, but a flaw extending spirally renders them extremely dangerous. See that the cartridge chambers are free from defective places in the metal. Examine carefully the holes into which the extractor leg and guide pin work, as in many guns the holes are not drilled centrally, and thus one of the barrels is seriously weakened in its most dangerous part. Probably more guns burst through the small hole for the extractor guide pin being drilled on one side than from all other causes combined. The diameter of a 12-bore barrel should not be less than $1\frac{1}{8}$ inch outside the extreme breech end, and 3 inches forward it should measure 1 inch diameter. See that the extractor works freely ; look through the barrels to see that they are free from dents, and also along the outsides to see that they are free from bulges. Notice in top and side lever whether they are single or double bolted. If choke-bored look at the proof marks on the barrel, as the amount of choke and the words "not for Ball" are stamped by the Proof House. If the barrel is marked either "12" or "13" it is usually a cylinder bore, but if marked "12 B" or "13 B" and "13 M" or "14 M" it is choked, those numbers referring to the sizes at the breech and muzzle respectively. It is always advisable to try an empty cartridge case in a gun to see that it fits properly. Sportsmen

sometimes get hold of a 14-bore gun in mistake for a 12, and find a difficulty in getting cartridges.

2nd. Test the locks carefully, and note whether they are rebounding or otherwise. If not rebounding they can be altered at a cost of about 21s. for doing them in good style. Take the locks off, and see whether they have a 2, 3, or 4 pin bridle; the increased number of pins (or screws) in the bridle denoting the superior quality of the locks.

3rd. Examine the action of the gun, and see that it is not cracked. Look to the firing pins, as in second-hand guns broken pins or strikers are often found.

4th. If light can be seen through the breech of the gun when the gun is held up to the light, it will cost about 10s. to have the breech tightened up.

5th. Note whether the fore-part has the old-fashioned bolt or the new patent snap fastener.

6th. Examine the butt carefully and see if it is cracked, or whether the wood runs straight in the hand, otherwise the butt is liable to snap off short.

7th. Try how the gun mounts in the shoulder. If the stock is too long, or not of the right bend, it can be altered at a cost of from 5s. to 10s.

8th. Hammerless Guns. Never buy a Hammerless Gun without submitting it to a good gunmaker for inspection (excepting, perhaps, the Anson-Deeley Patent Gun, which is about the most reliable, and which nearly always works well), as there are so many worthless Hammerless Guns offered for sale as second-hand, many of them bearing good makers' names.

9th. Beware of New Guns which are practically "wasters," and which are often offered for sale as second-hand by dealers whose address is usually within a few miles of Birmingham. These guns are usually offered as wonderful bargains, with all the latest improvements, at prices ranging from 30s. to 60s., whereas they are barely worth that number of pence.

In regard to the buying of new guns there is not so much to be said. A good shot can shoot with almost any gun in which the cast-off is fairly reasonable and the stock not too

long. And these two things even a moderate shot ought to be able to discover with the utmost ease. I have bought guns from a good maker's stock, and I have had guns built for me, and I have found that, except in one or two cases, one has made as good shooting as the other.

It is my opinion that when a sportsman's build—length of arm and so on—combined with his eyesight, are fairly normal, elaborate experiments in bend and exhaustive trials at shooting grounds, where the "expert" could no more bring down a snipe or high curlew than they could hit the moon, are not in the least necessary.

Without any trials at a shooting ground, without even the use of the "try-gun," Messrs. Greener were able to build me a double 10-bore last season which answered admirably from the very first shot, and is one of the most accurate and hard-hitting weapons in my possession.

We will now consider the different types of wildfowling guns, a somewhat vexed question, as sportsmen know well, and a question upon which no two writers on fowling matters are quite in agreement.

In beginning with guns of the largest calibre which can possibly be fired from the shoulder, we may dismiss the 2-bore at once. It is quoted in no first-class gunmaker's list, it is of no more real utility than guns of lesser gauge, it is enormously expensive, and can only be used satisfactorily under the most exceptional circumstances.

In short, it is practically obsolete in these days of perfection in weapons and nitro-powders. Messrs. Eley Brothers do, I believe, make a 2-bore paper case, but it is almost identical with that of the thin brass case for 4-bores. These 2-bore cases do not hold a bigger charge.

In fact, the first really practical shoulder gun into the merits of which we need enter is the 4-bore.

The 4-bore is by no means a *necessity* for the wildfowler.

No sportsman of moderate means need think his armoury incomplete without one. At the same time, this enormously powerful weapon is a splendid one to have if it can be afforded, more especially for taking long sitting shots at fowl at ranges from 100 to 150 yards.

At one time the 4-bore was more popular in single-barrel form than it is at present. But the improvements made in recent years in the quality of barrel steel and breech-bolt actions have made it possible for double 4-bores to be produced weighing so much less than formerly that the second barrel can be retained with the increase of only a pound or two extra weight.

And it must also be remembered that such a big gun as this cannot ever be used for rapid shooting. It is a piece of artillery fired from an ambuscade, and no more nor less than just that. A little extra weight, therefore, does not matter much, and I should strongly advise any intending purchaser of a gun of this calibre to buy a two-barrelled weapon—unless, of course, as sometimes happens, he can pick up a reliable single-barrel second-hand at a very low cost.

Almost any first-class gunmaker can turn out a satisfactory 4-bore, but three makers may be mentioned as doing so, in my opinion, better than any others. These are Messrs. Greener, Tolley, and Westley-Richards.

Mr. W. W. Greener, whose colossal work *The Gun* has often been referred to as the "sportsman's Bible," can turn out as good a 4-bore as any one in England.

He makes guns of this calibre in four styles of breech-loading; (1) double-grip lever under guard, back-work lock and outside hammers; (2) the treble wedge-fast top cross-bolt outside hammers; (3) treble wedge-fast top cross-bolt hammerless; (4) treble wedge-fast top cross-bolt hammerless ejector. This last gun, though a splendid weapon, is a pure luxury. Ejector mechanism is not necessary in these heavy guns, with which

THE AUTHORS

rapid shooting is not possible, and which were not built for any such purpose.

His hammer gun weighing nineteen pounds with 36-inch barrels costs £31 10s.

Messrs. Tolley—who produce a lesser-gauge gun, of which I shall speak at some length later—also turn out wonderful 4-bores for about £25 each.

Personally, though I have shot with one, I do not habitually use a double 4-bore, and in this connection I may as well quote the words of Sir Ralph Payne-Gallwey, the President of the Wildfowlers' Association, and, of course, one of the most famous of living shots. He says :—

"We hear a great deal about the performance of large-bore shoulder guns, especially of the doings of 4-bores. Some makers advertise that these weapons will kill well—mark the word *well*—up to 100 yards, and even do damage at 150 yards in what gunmakers call 'a flock. . . .' Perhaps a flock of sheep may receive a few pellets at the latter distance, but a company of widgeon would not be in the least danger. Few know what a distance 150, or even 100 yards, is unless they measure it, though they may talk loudly of their extraordinarily long shots."

Finally, in dismissing the question of 4-bores, I repeat that while it is pleasant, and often very useful, to own a gun of this calibre, no wildfowler need regard it as a necessity to do so.

We arrive now at a gun of quite a different nature and utility. I refer to the double 8-bore.

This gun has long been recognised as the standard wildfowling weapon. Weighing from 12 lbs. (light) to 15 lbs. (magnum), it is, of course, too heavy to carry long distances and is unsuited for snap-shooting. But nevertheless it is certainly the standard gun for shore work.

I recommend always a light double eight with 32-in. barrels full-choked, and chambered for the 3¼-in. perfect brass

case. The recoil in such a gun is naturally heavy, and an india-rubber heel-plate or recoil-pad, as it is called, is advisable. When ordering a gun of this kind sportsmen should not forget that they will in all probability be using it in much heavier clothes than they ordinarily wear in order to protect themselves from intense cold. This means that the shoulder will be much more thickly padded, and consequently the length of the gun-stock must be adapted to these conditions. Again, unless the stock is sufficiently short, the rubber recoil-pad will stick against the coat when the gun is being brought up smartly and the alignment will be spoilt.

I may remark here that a vast number of sportsmen shoot with stocks which are far too long for them, though they do not realise it. A well-known gunmaker has given it as his opinion that a sportsman, especially a wildfowler using a heavy gun, shoots best with a gun which is quite a quarter-inch shorter in the stock than a gun which he thinks suits him when trying it in the shop.

In regard to the shooting capacities of 8-bores, records of actual experience form the only test. Below I give some authenticated instances, the first concerning a double 8-bore built by Messrs. Tolley; the second, a gun by Mr. W. W. Greener. The records appeared in the *Field* and *Land and Water* respectively.

Messrs. Tolley's gun :—

"Six shots at single rooks, sitting on a stone wall, 83 yards' distance from the hall door. First, one pellet passing through head and one in back; second shot, bird winged; third shot, killed, one pellet passing through neck, one in breast, and one leg broken; fourth shot, bird flew away, apparently not touched; fifth shot, killed, one pellet in breast, one wing and one leg broken; sixth shot, killed, one pellet through head, one under wing, and one near vent.

"Six shots at single birds, 115 yards distant, killed second, fourth, and fifth shots; the fourth flew away for about thirty yards, and then dropped dead. One shot at six pigeons, 137 yards distant, killed

two. One shot at thirteen rooks, 141 yards distant, killed four and wounded another. One shot at about thirty plovers, 147 yards distant, killed six and wounded two others, which we afterwards bagged.

"The charge at the 83 yards was 8 drs. and 3 oz. No. 3 shot; at the 115 yards, 7¾ drs. and 3¼ oz. No. 1 shot; at the long range, 7½ drs. and 3½ oz. shot, fifty-four or fifty-five pellets to the ounce.

Mr. Greener's gun (double 8-bore, chambered for 3-in. brass "Perfects"):—

"With 6½ drs. No. 4 Alliance powder, 2¾ oz. No. 1 shot, the average pattern on a target 4 ft. by 3 ft. at 100 yards was 40 pellets = 3·3 to the square foot; with 7 drs. and 3 oz. No. 1, average 54 = 4 pellets to the square foot; with 6½ drs. and 2½ oz. No. 4 shot, at 80 yards, 127 on target, or 10 pellets to the square foot; with 7 drs. and 3 oz. No. 4 shot in 30-in. circle at 80 yards, an average of 57 pellets, or 11½ to the square foot; with 6 drs. and 2¾ oz. No. 1 shot at 80 yards, in the 30-in. circle, an average of 53 pellets, or 10½ to the square foot; with 6 drs. and 2½ oz. No. 1 shot, at 80 yards, in the 30-in. circle, an average of 48 pellets, or 9½ to the square foot; with 6 drs. and 2¾ oz. No. 1 shot at 60 yards, in the 30-in. circle, an average of 130 pellets; with 6 drs. and 2½ oz. No. 1 shot, at 40 yards, 90 to 97 pellets in a selected 12-in. square; with 7 drs. and 3 oz. No. 1, about 100 pellets in the 12-in. square.

"With brass cases, and 7 drs. and 2½ oz. No. 1 shot, the pellets in the 30-in. circle averaged 224; average in centre 12-in. square, 90 pellets.

The prices of 8-bores vary very much, but Messrs. Tolley make an admirable weapon, and well suited to the man of moderate means, for eighteen guineas, while their best-quality gun costs about twice as much.

The double 10-bore seems rather to have gone out of favour during recent years, though personally I swear by it for certain kinds of work. Some years ago the 10-bore was supposed to be the lightest kind of gun for wildfowling proper, and it certainly is an extremely powerful and yet extremely handy gun for a man of any physique. I have a double 10-bore built for me by Mr. Greener which is an absolutely perfect

weapon. Its range is enormous; its hitting power very great, and as a duck gun for fast flighting work incomparable. It comes to the shoulder—weight 9½ lbs.—with the greatest ease, and I can shoot redshank and snipe with it with comfort—though naturally one prefers a lighter gun for a long day's walk upon saltings. While waiting behind a sea-wall or in a duck-pit for fowl I find it admirable, though, of course, not every one would be able to use it for snap-shooting. Last season, for instance, I took out with me, on evening flighting, a boy of nineteen, the son of a regular wildfowler in my employment, and himself an excellent shot. I gave him my 10-bore and carried myself a lighter gun, of which I shall presently speak. We were behind a tall hedge which borders upon the narrow greens which fringe the Blakeney Marshes in Norfolk. It was moonlight, and we had not long been in position when a skein of grey geese came over us, not flying very fast, and at about fifty yards. I got my birds all right—a left and right—but my companion missed with both barrels, though the shot was not a difficult one, and one which under ordinary circumstances he certainly would not have missed. This happened more than once during the night, and was entirely owing to the weight of the gun being too great for a slender lad of that age.

The great advantage of the 10-bore is that it will shoot *large-sized* shot better than the 12-bore, and will also effectively carry heavier loads. For smaller shot the heavy 12-bore at which we now arrive is, in the opinion of most experts, equally good.

If the double 8-bore is recognised as the "standard" shoulder gun for shore-shooting, all wildfowlers of experience without exception will bear me out when I say that the heavy 12-bore chambered for long cases is the handiest and best all-round weapon. It is not too much to say that if a sportsman's whole armament consists of this gun alone, he will be prepared

for almost everything. If, as well, he can boast of an 8-bore, then he is completely equipped as far as necessities go, and everything else is luxury.

Sir Ralph Payne-Gallwey says :—

"A shore-gunner will do far better with a powerful 12-bore, bored for Kynoch's brass cases, than with any other weapon.

". . . A double 12-bore gun of 7½ lbs., carrying a charge of 3¾ drs. of powder and 1¼ oz. of No. 4 shot, is as useful a gun as any shore-shooter can want, and powerful enough for anything, from a sandpiper to a swan. With such a gun we have often killed a dozen and more duck and widgeon at a shot, and at other times fired at a single plover when with a larger gun we should have grudged the charge."

All this is perfectly true, and almost every writer on wild-fowling in modern times has said something like it. If Colonel Hawker were alive to-day he would say the same.

Mr. William Evans, of Pall Mall, turns out a good heavy 12-bore of this description and at a moderate price ; but there can be no doubt that the finest long-chambered twelves to be obtained anywhere at all are those produced by Messrs. Tolley, of Birmingham.

They were the pioneers of the movement which resulted in the popularity of guns of this calibre for wildfowling, and they have maintained the lead ever since. The "Altro" gun made by them is famous all the world over. It can be bought plainly finished, but reliable in every way, for so low a sum as fifteen guineas, and is therefore within the reach of every one.

I can speak from personal experience of this gun's excellent qualities. My own weapon is the forty-five guinea quality, but I have made a point of shooting with the cheaper grades, and have nothing but praise for the "Altro."

The gun is bored for both long and ordinary cases, and is equally effective with each, though I confess that I have not myself given it any exhaustive trial with short cases or as a game gun. Nevertheless I have used it on an occasional

afternoon on waterhen or rabbits, and found it shoot well—though for such work, or for driven birds, one naturally prefers a gun weighing 6¾ lbs. to one weighing 7½ lbs.

No wildfowler can afford to be without a heavy 12-bore chambered for the "Perfect" brass cases. Here is a gun, of all others, which is indispensable.

No less an authority than "Fleur-de-Lys" has recorded his opinion in an unmistakable way. Writing in the *Field,* he says :—

"Sir,—With regard to C. P.'s query in last week's *Field*, I think he could not do better than go to Messrs. J. and W. Tolley for one of their wildfowl 12-bores chambered and bored for the long "Perfects." I am using one of these brass case guns now for the second season, and its power is simply astonishing. I gave up the larger bores principally because of their unsuitability for quick shots at single birds (especially snipe). My Tolley's 12-bore weighs a little over 8 lb., and has 30-in. steel barrels, choked to give the closest possible shooting. It performs extremely well with 50 grs. Amberite or 3½ drs. black, and 1½ oz. No. 1 or No. 4 Newcastle chilled shot. With the ordinary short paper cases it also shoots well, and I always use these for snipe and cripple-stopping. I have not found that changing from an 8-bore to a 12 has at all diminished my sport among the ducks, for the lighter gun shoots No 1 so admirably that one is able to command almost the same range; and shots into big flocks, where the heavier 8-bore charge would tell, are such rare events with the shore-shooter nowadays that they need scarcely enter into his calculations. Last winter I several times got two, twice three, and once four duck to one barrel, and that at ranges of from fifty yards to sixty yards; for the fowl along the foreshore where I shoot are much harried. For snipe-shooting the gun is just as handy as a light paper-case twelve—at least I miss about the same proportion with either weapon. It adds immensely to one's pleasure being able to tackle single birds; and for this reason alone I consider the 12-bore is immeasurably superior to the 8 or 10. Messrs. J. and W. Tolley can build a 12-bore to put about fifty pellets of No. 1 into a foot square at forty yards: and No 1 is, I am convinced, the shore-shooter's trump card; an ounce and a half contains 156 pellets, and at eighty yards they will go through a duck like bullets, while the pattern at this distance is so satisfactory that a shot into a

bunch of three or four birds is fairly certain to have an influence on the weight of the bag. Being able to use one's ordinary game cartridges for close shots is a great advantage; for when hurriedly reloading to polish off cripples, one feels the difference between the paper and brass cartridges at once, and there is no chance of cutting a wounded duck to ribbons with an ounce and a half of No. 1.

"FLEUR-DE-LYS."

Only two other varieties of shoulder guns require any mention. The first is a "cripple-stopper" for use in punting after the big gun has been fired. As a gun of this class must inevitably get wet and suffer hard usage, a valuable weapon is a mistake and quite unnecessary. A good "farmer's gun" of the kind that Messrs. Jeffrey turn out for five pounds is all that is necessary.

There remains the question of a rifle. It often happens that after flight-shooting at geese, two or three of the big birds manage to get away to the open sands, where they become exhausted and must remain. They are not able to fly back to their inland feeding-grounds, and, if not captured, waste away and die of hunger. Without any possibility of cover, it is impossible to get near enough to these cripples for a shot with an ordinary gun. The only alternative is a rifle—or to run them down. Anyone who has tried the latter will know what an almost impossible business it is, and hence a small rifle becomes most useful.

Almost any make will do; there are dozens of cheap and reliable weapons on the market at prices from £2 10s. upwards.

I use an excellent little rifle built for me by Messrs. Greener for five guineas. It fires the 297/250 shell, and I recommend the hollow-point bullet. It is sighted up to 150 yards, but reliable at greater range when once thoroughly understood.

So much for the armament of the wildfowler. In the next chapters I shall deal with Ammunition, and—a most important point—the "Complete Gun-Room."

CHAPTER III

AMMUNITION

The sportsman of to-day is in a most fortunate position in regard to ammunition. He has, of course, his individual preferences in regard to this or that powder, cartridge-cases, and shot. Experience determines them for him. But powder-makers and cartridge-loaders are now so highly trained, the work is carried out under such rigidly scientific conditions and with such an infinity of experiment, that an extraordinarily high average of excellence is obtained.

It is, indeed, by no means necessary for the modern wild-fowler to be a scientific or trained expert in ammunition.

The days when Colonel Hawker wrote : "None are better than the most transparent of the common black flints. . . . They should be put in with the flat side upwards, stand well clear of the hammer, and yet be long enough to throw it. . . ."

Or, à propos of powder : "Your powder should be always properly dried ; in order to do which, make two or three plates very hot—keep constantly shifting the powder from one to the other"—are fortunately gone for ever.

The wildfowler at the present time has an enormous choice of powders offered to him, and, with the exception of powders for punt guns, which are treated of in another part of this book, all of them are nitro-compounds.

These explosives have, more particularly during the last few years, been brought to such a state of perfection that it is difficult to imagine any further improvements. Recoil has been

minimised to such an extent that the heaviest charges in large-bore guns can be fired by the sportsman without undue inconvenience. Smokelessness is now absolute, ignition is literally instantaneous, and regular unvarying pressures are obtained under all circumstances.

It would be an idle task, and quite unnecessary, for one to attempt any lengthy criticism of all the leading powders on the market. It is sufficient, in my opinion, to give some facts about two powders which are universally recognised as being the best sporting explosives in the world—"E.C." and Schultze.

E.C. No. 3 may be technically described as follows:—It is formed of nitro-cellulose, completely purified and of a uniform quality, together with a small quantity of some suitable nitrate, formed into approximately spherical granules, hardened throughout their mass by treatment with a solvent which not only renders the grain hard, but also waterproofs it without completely destroying the fibrous structure of the nitro-cellulose. It follows that there remains upon the surface of the granules enough rugosity to secure a very quick ignition from the flash of the cap.

The best cap is one of moderate strength; but it is a distinctive feature of E.C. that considerable latitude is possible in the matter of cap strength.

The claims made for this powder by the company which manufactures it are very high, and there is no doubt whatever that they are justified. My own experience is only that of all other sportsmen. There may be one other powder as fine as E.C. No. 3—i.e. Imperial Schultze. I am certain that there is no finer.

I have mentioned rapid ignition, but combustion also is perfect, and as the mixture contains no waste constituents recoil is not increased nor is energy absorbed. Great varieties of load are possible, while at the same time the resulting

velocities are in definite relation to the proportion of powder to shot. This simply ensures that powder is not dependent upon the presence of a particular amount of shot to produce the resistance necessary for perfect combustion, but will do its work under widely varied conditions.

Low recoil for a given velocity is evident with all loads, and of course this is a great consideration with the wildfowler, who is constantly using weapons of large bore and firing exceptionally heavy charges.

I append herewith a table of loads for E.C. No. 3, which is the result of most careful experiment, and add some further particulars.

LOADS FOR E.C. No. 3.

	Gauge.	Length of Case.	Weight of Powder in Grains.	Weight of Shot in ozs.	Thickness of Felt Wadding.
		In.	Gr.	Oz.	In.
	4	4	90	3	$\frac{1}{2}$
	8	$3\frac{1}{4}$	60	2	$\frac{6}{16}$
	10	$2\frac{7}{8}$	44	$1\frac{1}{2}$	$\frac{7}{16}$
	10	$2\frac{5}{8}$	40	$1\frac{6}{16}$	$\frac{3}{8}$
Note.	12	3	44	$1\frac{7}{16}$	$\frac{7}{16}$
(1)	12	$2\frac{3}{4}$	40	$1\frac{6}{16}$	$\frac{6}{16}$
(2)	12	$2\frac{3}{4}$	38	$1\frac{1}{4}$	$\frac{3}{8}$
(3)	12	$2\frac{1}{2}$	36	1	$\frac{3}{8}$
(4)	12	$2\frac{1}{2}$	33	$1\frac{1}{8}$	$\frac{3}{8}$
(5)	12	$2\frac{1}{2}$	33	$1\frac{1}{16}$	$\frac{7}{16}$
(6)	12	$2\frac{1}{2}$	33	1	$\frac{1}{2}$
(7)	12	$2\frac{1}{2}$	29	$\frac{7}{8}$	$\frac{10}{16}$
	14	$2\frac{1}{2}$	31	$\frac{15}{16}$	$\frac{3}{8}$
	16	$2\frac{3}{4}$	30	1	$\frac{7}{16}$
	16	$2\frac{1}{2}$	28	$\frac{7}{8}$	$\frac{3}{8}$

LOADS FOR E.C. No. 3.—*continued.*

	Gauge.	Length of Case.	Weight of Powder in Grains.	Weight of Shot in ozs.	Thickness of Felt Wadding.
		In.	Gr.	Oz.	In.
	20	2^{3}	28	$\frac{7}{8}$	$\frac{3}{8}$
	20	$2\frac{1}{2}$	26	$\frac{3}{4}$	$\frac{3}{8}$
	24	$2\frac{1}{2}$	22	$\frac{5}{8}$	$\frac{3}{8}$
	28	$2\frac{1}{2}$	20	$\frac{1}{2}$	$\frac{3}{8}$
Note.	32	$2\frac{1}{2}$	16	$\frac{7}{16}$	$\frac{3}{8}$
(8)	·410	2	9	$\frac{6}{16}$	$\frac{1}{4}$

Note (1) Wildfowl load for $2\frac{3}{4}$ in. 12 bore cases.

(2) Pigeon load.

(3) High velocity load for $2\frac{1}{2}$ in. 12-bore cases.

(4) Corresponds to the old standard load of 3 drams and $1\frac{1}{8}$ oz. shot.

(5) The medium load, giving slightly less recoil and more velocity than (4).

(6) A light 12-bore load.

(7) A very light 12-bore load for light guns or for ladies' and boys' use. The felt wadding should consist of two wads, each $\frac{6}{16}$ in. thick.

(8) Use card wads of $\frac{1}{20}$ in. thickness.

The ounce avoirdupois contains 437·5 grains or 28·349 grammes.

The pound avoirdupois contains 7000 grains or 453·59 grammes, therefore 1 lb. of E. C. No. 3 will load $\frac{7000}{33}$ = 212 cartridges containing the charge of 33 grains.

The dram avoirdupois is the sixteenth part of the ounce of 437·5 grains. The dram, therefore, weighs 27·3 grains or 1·7718 grammes. Used in connection with the loading of cartridges the dram now refers to the volume occupied by $\frac{1}{16}$ oz. avoirdupois of water or of black powder. E. C. No. 3 being lighter than black powder, 11 grains of the former occupy the bulk of 1 dram or 27·3 grains of the latter, i.e. 33 grains of E. C. No. 3 are the same volume as 3 drams or 82 grains of black powder.

The above measure must not be mistaken for the fluid dram, which contains 54·68 grains.

The gramme equals 15·432 English grains; that is to say, 1 grain = ·0648 gramme.

The metre equals 39·37 inches. There are, therefore, 25·9935 millimetres n an inch.

As I have said before, everyone has his pet powder, and I myself have shot more with E. C. No. 3 than any other. My collaborator, who is a remarkably good shot, uses Messrs. Curtis and Harvey's "Smokeless Diamond." Yet there is another magnificent powder obtainable, and many fowlers swear by it—the famous "Imperial Schultze."

Schultze Gunpowder, as Mr. W. W. Greener tells us, is manufactured from light fibrous woods, similar to those used for making black powder charcoal. The wood is pulped and then changed to nitro-lignine by treatment with nitric and sulphuric acids. The compound is then carefully cleansed and purified, all deleterious chemical properties and acids being eliminated. The powder then undergoes hydraulic pressure, the cakes are broken up and the powder granulated in revolving drums. It finally has to be dried by steam, waterproofed and hardened, exposed to the air, and stored for some time in open cylinders before it is ready for use.

Imperial Schultze, which is a further improvement upon the still excellent ordinary Schultze, is a 33-grain powder for 12-bore charges, and has a peculiar attribute of giving effective results with small-shot charges.

Below is the Company's own table of loads.

ORDINARY SCHULTZE

Bore.	Drams. Grains.	Shot.
For a 20 -	$2\frac{1}{4}$ or 31 -	and $\frac{1}{8}$ oz.
,, 16 -	$2\frac{5}{8}$,, 36 -	,, $\frac{1}{16}$,,
,, 14 -	$2\frac{3}{4}$,, 39 -	,, 1 ,,
,, 12 -	3 ,, 42 -	,, 1, $1\frac{1}{16}$, or $1\frac{1}{8}$ oz.

IMPERIAL SCHULTZE

Bore.	Drams. Grains.	Shot.
For a 20 -	$2\frac{1}{4}$ or 25 -	and $\frac{3}{4}$ oz.
,, 16 -	$2\frac{5}{8}$,, 28 -	,, $\frac{7}{8}$,,
,, 14 -	$2\frac{7}{8}$,, 31 -	,, $\frac{1}{16}$,,
,, 12 -	3 ,, 33 -	,, 1 or $1\frac{1}{16}$ oz.

I do not for a moment say that there are not other reliable and effective powders to be had. Amberite, for example, is highly spoken of. But fowlers can never go wrong in their choice of either of the two varieties dealt with above. I suppose it is hardly necessary to warn even the beginner against the use and purchase of inferior explosives.

The question of shot is one of considerable importance, though here quality does not vary in nearly the same degree as it does in the case of powder. First of all let me most strongly advise that when ordering the season's cartridges chilled shot should invariably be specified. Chilled shot, though infinitely harder than any other variety, will not injure the barrels of even an inferior gun, while "leading" is much less frequent. Again, hard shot invariably improves a gun's shooting, while its penetrating power and velocity is much greater than that of softer pellets.

I give on next page a table of the various number of pellets in various loads (Newcastle standard), which will be useful for reference when we come to consider the different sizes suitable for use on different kinds of fowl.

It may be as well to state that some fowlers are not with me in my advocacy of chilled shot. They say that while its penetrating power is greater it makes a clean wound and does not always stop a bird, whereas the softer shot inflicts a wound and shock which brings the bird down at once.

There may be something in this view, but I think that the advantages of chilled shot are greater than anything that can be said against it, and I have always found it perfectly satisfactory.

Wildfowlers know that when a number of them get together and the talk becomes eager and technical there is, perhaps, never such diversity of opinion as upon the question of various sizes of shot for use under varying conditions at different species of birds.

TABLE SHOWING (APPROXIMATE) NUMBER OF PELLETS IN VARIOUS LOADS, OF ANY SIZE OF NEWCASTLE CHILLED SHOT.

Weight of Load.	Number.																					
	1	2	3	4	5	6	6[1]	7	8	9	10	11	12	O	3A	2A	A	3B	2B	B	SG	SSG	SSSG
¾ ozs.	78	92	105	129	164	203	225	255	338	435	638	780	938	1275	30	36	42	48	57	66	6	8	11
⅞ ,,	91	107	123	151	191	237	262	298	394	508	744	910	1094	1488	35	42	49	56	66	77	7	10	13
1 ,,	104	122	140	172	218	270	300	340	450	580	850	1040	1250	1700	40	48	56	64	76	88	8	11	14
1⅛ ,,	117	137	158	194	245	305	337	383	506	653	956	1170	1406	1913	45	54	63	72	85	99	9	13	16
1¼ ,,	130	152	176	216	272	340	375	426	562	726	1062	1300	1562	2125	50	60	70	80	95	110	10	14	18
1⅜ ,,	143	167	193	237	299	375	401	469	618	799	1168	1430	1718	2338	55	66	77	88	104	121	11	15	19
1½ ,,	156	183	210	258	327	405	450	510	675	870	1275	1560	1875	2550	60	72	84	96	114	132	12	17	21
1⅝ ,,	169	198	228	280	354	439	487	553	731	943	1381	1690	2031	2763	65	78	91	104	123	143	13	18	23
1¾ ,,	182	213	246	302	381	473	525	596	787	1016	1487	1820	2187	2975	70	84	98	112	133	154	14	19	24
1⅞ ,,	195	228	263	323	409	507	562	639	843	1089	1593	1950	2343	3188	75	90	105	120	142	165	15	21	26
2 ,,	208	244	280	344	436	540	600	680	900	1160	1700	2080	2500	3400	80	96	112	128	152	176	16	22	28

[1] Corresponding to London size No. 6.

In this connection there are, and can be, no hard and fast rules. The experience of the sportsman himself must decide. One may, perhaps, give some general indication however.

For all ordinary work, 5 or $5\frac{1}{2}$—I prefer the latter—is a safe all-round size with a long-chambered 12-bore gun. No. 4 is useful also for flighting work on duck, curlew, plover, etc. when the wind is rising.

Large shot should *not* be fired often from 12-bores.

For geese I have found No. 3 shot an excellent size *in calm weather*. It is not very generally used, I believe, but a trial will convince the gunner that I am correct. Small chilled-shot pellets of No. 3 find their way in among the thick feather-cushions of geese in a surprising fashion.

In a gale, however, when the shooting is best, or, on the other hand, for long stalking shots, much larger sizes must be used. No. 1 and B.B. are the most popular sizes in Norfolk and Essex, and are very deadly. No. 3 is essentially a size for use in moderate conditions.

While dealing with shot, one should not omit to mention the method of confining the pellets in tallow invented by Colonel Hawker in 1837.

This plan is not, perhaps, very general, and it involves some trouble and experiment. Nevertheless, it answers excellently in certain cases. During the winter of 1908, in conjunction with my fowler, John Snell—as good and experienced a sportsman as can be found upon the eastern coast—I made careful trial of this loading. Brass cases were used, and charges of No. 1 and also of B.B. were confined not in tallow, but in the best hog's lard. Some very long shots were the result, and the penetration was enormous. It may be said at once, however, that a beginner or only a moderate shot will not do much with the grease cartridge. Absolutely straight shooting is essential.

And let me recommend any sportsmen who have not tried

this plan and wish to do so, that they should pay most careful attention to the turnover of the cartridge. This is a most important point with these cases, and the more so because most of the loading machines to be bought at the gunmakers do not afford any very satisfactory crimping apparatus. About the best that I have seen was sent me by Messrs. Jeffery.

Ammunition must not be dismissed without a word upon cases, and for the wildfowler there is only one word to be said. Since the introduction of the thin brass cartridge-cases called "Perfects" nothing else will do. Escape of gas is impossible; there is hardly ever a jam in the chamber-cone, and, above all, they are entirely waterproof.

And this last, for the fowler, is the most important thing of all. We have to shoot under conditions which the ordinary dry-land sportsman knows nothing of. In duck-pits, in creeks and gutters, in rain and snow-slush, the ordinary paper cases must inevitably become damped, swell, and finally injure the powder.

The "Perfect" cases have done away with all that, and the gunner is immune from all accidents of damp or wet.

It is true that the thin brass case adds considerably to the cost of ammunition. But it repays its cost over and over again. These cases can be reloaded, if necessary to the gunner's purse—which is one consideration. But in any event, for rich or poor, the increased efficiency counterbalances the increase of cost.

Let it be said that the thin brass cases are an absolute necessity for all those sportsmen whose quarry is wildfowl.

A word upon the ordering of cartridges. I think that a few hints may be of service.

A wildfowler who has his guns built for him by some famous firm of gunmakers is in safe hands. Having found by test and experience exactly what he wants for this or that gun, he will give his orders and they will be faithfully carried

out—though frequently valuable modifications and alterations will be suggested by the experts in London or Birmingham. But in such circumstances the sportsman may be sure that his wishes and specifications will be adhered to.

But the wildfowler who, undesirous or unable to load his own cases, trusts to some local expert, will do well to be wary and exercise a rigid supervision over the work.

Let him be sure that if he wants "E.C.," "Shultze," or "Smokeless Diamond" he really gets it; that if he specifies a certain quality of shot or strength of cap, the cartridges are duly loaded as he directs. Your local loader will nearly always adhere to specifications as far as grains, or grammes, or weight of shot is concerned. But beware of him when the question of quality of material—caps, powder, wads, and shot—is concerned!

I would say to all fowlers, "Go to your own reputable gunmaker with your own individual requirements, or else to one of the best-known cartridge firms *direct*."

And one may remember that, in instances of unsatisfactory supply, there is, fortunately, a Court of Appeal.

The best thing to do, in fact the only thing to do, is to send defective cartridges at once to *The Field* for their expert's report.

No dishonest loader or cartridge maker can afford to make a stand against the supreme tribunal of all sportsmen.

CHAPTER IV

THE COMPLETE GUN-ROOM

If a gun is a friend to a man, if he knows and cares all about its personality and ways, then that goes some way to prove that he is a genuine sportsman—and in the particular instance of this book, a true Wildfowler.

One's guns are one's friends. They have been companions of many night watches in darkling and dawn, in cold moonlit midnights, bitter winds, ice-cold hours, and the roaring tempests of God. One loves their gracefulness (to many of us a perfect gun is the most beautiful thing that skilled handicraft can produce), and utter efficiency, combined with perfect execution, is indeed a wonder of this day.

The furious passions of chemic things are let loose by the sure action of the most studious inventions, by the supremest nicety of mechanism, refined and brought to perfection by hundreds of brains and innumerable experiments, and to say that a gun is a thermo-dynamic engine by which the potential energy of the explosive is converted into the kinetic energy of the projectile, is merely to define and not describe a gun.

THE CARE OF GUNS

Sporting weapons require, and receive from all good sportsmen, the very greatest care and specialised treatment. A good gun which might last the best part of a lifetime is as easily ruined by bad usage as a watch. The gun-room and its appliances are of supreme importance.

By far the best way in which to keep guns is in a special cupboard made for the purpose, in which the guns stand fitted

together and ready for use. The flat leather cases are simply made for travelling, and are neither convenient nor pleasant to look at when used for storage purposes in a gun-room. The tall cupboard against the wall, with its glass door and row of shining weapons within, focusses the eye at once and gives interest and character to the room dedicated to the service of sport. Gun-cupboards can be bought from gun-makers, but they are generally somewhat expensive. A good carpenter can make an excellent cupboard for a good deal less money than one would have to pay in the shops. Well-seasoned oak is the best material of all, and the inside of the cupboard should be lined with red or green baize. Slight depressions, also lined with baize, should be cut in the floor to take the butts of the guns, and to hold the barrels at about an inch or two from the sight, any one of half a dozen simple devices can be employed.

I have seen steel rings, screwed into the back wall of the cupboard and covered with twisted yarn to prevent scratching, act very well, but I think that the shelf-rest answers as well as anything. I use a shelf with slots cut in it for the reception of each pair of barrels, each aperture carefully padded with wash-leather. Each slot is opened and closed by a thin piece of oak working up and down on a central pin at one end.

It is essential that gun-cupboards should be entirely dust and damp proof.

THE CLEANING OF GUNS

It is a sound maxim, especially for wildfowlers, that the sportsman should always clean his gun himself. In the case of big game shoots the keepers assemble in the gun-room after the day's drive and clean the weapons while their masters dress for dinner. But that is not the wildfowler's way, and even so great an authority as Lord Walsingham has a strong condemnation for it in Badminton. More guns are ruined by careless attention on the part of keepers and servants than many people are aware

of, and few people realise how easily an expensive pair of tubes can be bulged ever so slightly, but sufficiently to ruin their shooting, by being dropped. The fowler, moreover, brings back his weapons in a very different state from those of the ordinary sportsman, and it behoves him to take the greater care and to deal with them personally.

If a gun is wet it should be wiped dry *at once* with the most scrupulous care. No single part should be left unnoticed, and minute attention should be paid to parts such as the inside of the trigger-guard, the triggers themselves, and the part of the plate underneath the top-lever which is hidden by the lever when the gun is closed, but exposed when open. There is, moreover, a certain part of the gun often overlooked by sportsmen when wiping a gun dry, and yet a part in which minute and unnoticed particles of water often collect and cause dangerous rust. I refer to the angle made by the rib with the curve of the barrels on each side.

An ordinary cloth passed over the barrels is far too coarse to penetrate these minute crevices, and as a result the water gets left.

There are two ways of getting over this trouble, neither of which have I seen mentioned in any shooting work. One is to run a fine dry camel's-hair paint-brush from breech to muzzle on each side of the rib. This collects the water and pushes it up in small beads upon the curve of the barrels, when the ordinary cloth readily removes it.

The other, and surer way, is an invention or plan of my own. I procured a very thin and worn sixpence and had it soldered to a steel rod about as thick and long as an ordinary lead-pencil. A piece of silk placed over the angle made by the rib with the barrels can be pressed down into the crevice with this simple tool and run up to the muzzle in a second or two, completely mopping up all the water.

To clean the barrels use a cleaning-rod with tow and oil.

Rangoon oil is the best, though some sportsmen prefer turpentine in the first instance. I do not advise the use of the brass "jag" sold by all gun-makers with cleaning rods, and round which the tow is to be wrapped. This nasty little attachment is quite unnecessary, and is sure to scratch the barrels sooner or later. A much better plan is to make a ball of tow of the required size—fitting the tubes tightly, but not so tightly as to possibly injure the choke when being forced through it—and after dipping it in oil, to *push* it through with the rod. When the barrels appear perfectly clean, wipe away the oil with *clean* tow pushed through in the same way, and then finally oil them again with Rangoon, but this time with a *perfectly clean* mop which has never been allowed to come in contact with any fouling.

Leading may be removed by soaking well with turpentine, and then using the bristle bush. I do not think that the wire brush is necessary, except in very bad cases indeed.

The joint of the breech-action, and also the bed and face, ought to be slightly oiled before putting away the gun. A little pad of wash-leather soaked in Rangoon is useful, but an oily rag will do, though it should not be of any material that has fine hairs or fluff upon the surface.

In addition to the Rangoon and the various cleaning cloths (which should always be kept shut up in a box away from dust and dirt) a few knitting-needles are handy upon the cleaning table. These are far better for putting on any lubricant than any other method, especially to reach parts of the mechanism not reached by the rag. The use of feathers is a mistake.

The stocks of guns should no more be neglected than any other parts. Nothing looks worse than to see a fine piece of wood all dull and dirty, with none of its natural markings revealed.

All other oils, save Linseed, should scrupulously be kept away from the stock and fore-end, and this should be applied

most sparingly, the wood being afterwards polished to a bright surface, first with chamois leather, and afterwards with an old silk handkerchief.

There is one thing which wildfowlers have to contend with, in contrast to other kinds of sportsmen, which spoils the look of a gun as much as anything. This is the mud which almost certainly gets into the fine chequering of the fore end and grip. This may be easily brushed or wiped off surface-smooth, but a dry residuum of a light brown colour will remain between the lines. To remove this with a pin or piece of wire, or worse still the point of a pocket-knife, is to risk cutting and scratching the wood. I have found nothing so good as a simple quill tooth-pick run quickly up and down the lines each way, when the dust removed can be blown off. Finally, when putting a thoroughly cleaned and oiled gun back into its cupboard, hold it by a piece of wash-leather, so that no unsightly finger-prints may be left upon its shining barrels and furniture.

It is a good plan to insert snap-caps into the chambers of hammerless guns before putting them away, but before putting new snap-caps into use it is as well to slightly loosen the vulcanite cap, by means of the screw inside the shell. If the triggers are subsequently pulled there is not so much jar to the striking-pin.

GUN-ROOM TOOLS

These are few enough, for when anything goes wrong with the locks of a gun, amateur interference—even when a man is of a mechanical bent—is undesirable, the gun-maker should be consulted at once. It is far safer and better to do so in every way. A couple of small screwdrivers—of *good* steel and a fine edge—a nipple-key, perhaps, for hammer weapons, and a few extractors are nearly all that the fowler requires.

Two kinds of extractors are sold, the brass ring and hook variety, which is clumsy and practically worthless, and the steel-tweezer kind, which is much better. But even this latter is a nuisance to the wildfowler, however useful it may be in the

field, because fingers frozen to the bone by cold and wet cannot manipulate the instrument with the required nicety.

The best of all extractors for the fowler is a simple device invented by Mr. Stanley Duncan. It never fails, and can be used without any tiresome, and, under the circumstances I have indicated, often impossible adjustment. The thing is simply a piece of solid lead about two inches long, and of the thickness of an ordinary blue pencil. Dropped down the barrel of the gun, it will remove the tightest case. Any ironmonger or blacksmith could make one of these plugs in a very short time, and all sportsmen who have tried them, myself among the number, find them indispensable.

A few other necessities of the gun-room may be mentioned, though they hardly come under the category of tools. One of them is a compass, which is an absolute necessity both for shore and punt-shooting. Many a man would have lost his life upon the saltings or afloat without one. The best variety I know of, and one which I always use, is that sold by Messrs. Negretti and Zambra for half a guinea. It is in the shape of a full hunter watch, and made of gun-metal. The card is illuminated at night, and can be seen with perfect plainness if the compass is opened for an hour or so in the daytime to absorb the light which it gives off at night.

No fowler can be without a pair of strong glasses, and these should be as light as possible and with a wide field. I have a pair that were made in Paris and only cost thirty shillings. I did not buy them myself, and they have no maker's name upon them. They are excellent though rather heavy. Lately, however, I have been experimenting with smaller makes and find Messrs. Negretti and Zambra's "Minim" glasses good. They are small and light with clear definitions. It would be interesting if some eminent opticians like the above-mentioned firm, Messrs. Zeiss, or Goertz, would produce a special "fowler's" glass. They would be

surprised at the resultant sales if they turned out a really good article. Any experienced wildfowler could explain exactly what was wanted, and could suggest several special features which could be easily carried out. I hope that these remarks may stimulate makers who may not have thought of this.

WILD-FOWLING CLOTHES

There are many dangers in wildfowling from wind, tide, and treacherous mud-flats. But the greatest dangers of all arise from the lack of proper and sufficient clothing. It takes a strong man to be a successful fowler to begin with, and pneumonia, rheumatic fever, and bronchitis have claimed more victims than sportsmen ever hear of.

All wildfowling clothing should be of a nondescript brown or khaki colour. Black and white are far too conspicuous, and the keen eyes of the quarry detect them from enormous distances. Wool should always, under all circumstances, be worn next the skin. Almost every sportsman, while agreeing upon certain essentials, has his own fancy in wildfowling costume. I find a grey sweater with a high collar an excellent thing worn over a wool vest, a flannel shirt and a waistcoat. With one's cartridge bandolier round one's waist (for shore-shooting) and an ordinary jacket, one is sufficiently protected from most weather, though a loose Burberry "slip-on," with sleeves and shoulders especially cut for shooting, is often an excellent thing.

Probably the most complete study of fowling costume has been made by Mr. Fielding Harmer. It is the result of forty years' careful experiment. I quote an account of it from that delightful book of that first-class sportsman, Mr. Nicholas Everitt—*Broadland Sport*—a book, by the way, that every fowler ought to possess. "The underclothing is all flannel, as recommended by most authorities on gunning; but trousers of Bedford cord, with seat extra strengthened, roomy, and lined with wash-leather. Fisherman's guernsey and coat or waistcoat, according to fancy. For the feet—the

most important part to keep the blood in good circulation—the usual pair of hand-knitted socks, and a long, thick, coarse pair of overall boot stockings. The boots reach well-nigh to the top of the hip, and are properly fastened with the usual garters below the knee, the lower parts being made of very stiff leather ; but the uppers require a vast amount of skilful paring by the currier to obtain the requisite thinness, so as to enable one to kneel or bend the knee in any position without incurring discomfort of any kind. Some uppers are from a different class of leather altogether, and are sewn on ; but the ones used by Mr. Harmer consist of whole pieces, which will be found preferable. An admonition against india-rubber boots and clothing in general cannot be too often repeated, for its non-porousness lays open a death-trap to be avoided.

"The most important feature in this costume consists of a peculiar loose pair of dressed waterproof knickerbockers, or rather breeches, fastened round the waist by means of a strap and buckle, and falling almost below the knees, followed by a slop of similar material extending from the neck to the hip, and overlapping the aforesaid breeches. The knicker-bockers should have a leather-lined seat, with extra strengthenings in the crutch, besides being cut after an eccentric pattern, with view neither to beauty nor fashion, but solely and simply for warmth and comfort. A wrapper round the neck, and cap, sou'-wester, or other head-gear, 'according to fancy,' completes the costume."

To this I may perhaps add that I find nothing more comfortable in the way of head-gear than a round cloth shooting hat, which can be turned down or up in any direction, does not necessarily impede hearing, and can be procured in suitable and unconspicuous colours. If a sou'-wester is preferred, it should be of the yellow variety, and not black.

For work when the marshes are covered with snow, a white

cap and a long white overall renders the sportsman almost invisible to birds, and one has had some surprising successes in this garb, which enables one to get close to fowl in a way that anyone who has not tried it would almost refuse to believe.

CHAPTER V

THE LAW AS IT AFFECTS WILDFOWLERS

A CERTAIN class of people look upon all shooters who visit grounds which are in every sense free to the public, as poachers or thieves who come to do harm, though the free-shooting wildfowler of the genuine type is invariably as good a sportsman as one need wish to see. Of course there are black sheep in every sport who give it a bad name, but why should honest sportsmen suffer for the sins of others? Until the weeding-out of undesirables can be carried to a practical end—which is the aim of the Wildfowlers' Association—I see no means of ascertaining the genuineness of the wildfowler. Until such measures can be brought to pass the free-shooter will always be looked upon by the individuals above referred to as one who means no good. Of course, locally, individual practice in wildfowl shooting becomes established in the minds of the people, and in such cases the bitter feeling of unreasonable folk is being toned down considerably.

We cannot easily make matters clear relating to free wildfowling grounds without recourse to the game-laws. Privileged places as defined by law consist of forests, chases, purlieus, free warrens, parks, and manors over which the Crown and lords of manors have sole powers. Commons and foreshores are not mentioned, and it is these which most affect the wildfowler. Of course we need not discuss the rights of jurisdiction empowered over the privileged places named, as they do not seriously concern our subject, but we must perforce make

slight reference to other matters which accrue from their institution. All manors or lordships were originally derived from the Crown. No new manor has been or can be legally created since 1290 (18 Edward I). In the past lords of manors had certain civil and criminal jurisdiction which was exercised at the manor courts, but now this has ceased to exist. It appears that the lord of the manor has the exclusive rights to the game on the open and unenclosed lands in the manor of which he is owner. This would imply, on foreshores, a line of demarcation determined between mean high- and low-water marks. Further, the exclusive right of shooting on certain foreshores by the owner of an adjoining manor has been reserved by special grants from the Crown, but such grants were all made prior to Magna Charta, and are now not available. There are other rights of common, but these chiefly refer to grazing. This state of law concerns England and Ireland, but it is different in Scotland. As regards Crown property, the Game Act, 1831, sec. 9, excepts from its operation all possessions or land revenues of the Crown, etc., but it provides that this exception is not to give any lord of a manor any greater rights than he possessed before its passing. Crown lands are under the management of the Commissioners of Woods, Forests, and Land Revenues. Unless a locality can be proved to be in the waste of a manor or similar privileged place subject to individual rights, no special claim to game or other wild animal can legally exist in any different manner from any other private lands in the country. The Larceny Act protects animals kept in confinement, such as pheasants in pheasantries and waterfowl in enclosures. Game under a state of domestication, as on a game farm, and duck decoys are recognised as business or trade properties. With regard to wildfowl decoys, although the owner has no property in them, he can legally maintain an action against a person who may wilfully fire a gun on his own land to disturb the wildfowl in the decoy.

This, however, does not apply to a person genuinely sporting on his own land which may adjoin a decoy. Even a person on a tidal river, shooting at wildfowl for sport or profit so near a decoy as to drive out the wildfowl in it, is liable to an action for wilful disturbance and damage to a decoy. These cases are established upon the ground that one is damaging or disturbing the trade of another.

Now as regards matters which directly affect the shore-shooter. We readily see that, unless a person has a right to prevent people from shooting on a foreshore, he cannot legally do so. In setting up the proof of rights a case is placed beyond the jurisdiction of local magistrates, and therefore must in the first instance be dismissed. As for the right to shoot on a foreshore belonging to the public, there is no such thing, but the prevention of the public from using such foreshores must be set against and maintained by persons having a legal right to do so. Since the ordinary owners and tenants of private lands adjoining foreshores have no more power than the ordinary man in the street, they cannot prevent people from using the foreshores, except, of course, where Crown grants exist.

Thus, while the public may have no legal right on a foreshore, it is possible that no one else possesses the legal right to prevent the public using the foreshore; consequently, the ground—for ordinary sporting purposes, at least—is used by all.

County Councils, it must be remembered, can obtain certain powers over foreshores within their area. Orders can be made by County Councils regulating the use of foreshores by the public. These orders are never made without reasonable foundation, and are issued for the welfare of the community in general.

River Commissioners can also claim certain powers over land under their control, and any rights they possess they can

let. As far as sporting rights on Crown and Commission land are concerned, these can invariably only be claimed by tenancy of land, but if Commissioners actually hold sporting rights they can legally let them if desirous of doing so. River Commissioners and the Crown neither assist nor resist shooters on tidal foreshores, as a rule. In the case of land rented from the Commissioners, the tenant must carry out any prosecutions which may be taken against offenders. Subletting of sporting rights of Crown lands or land held from Commissioners, appears to be a question of disposal of rights not vested in the tenant, and therefore would, in a court of law, appear as something which could not stand as a legal transaction ; consequently a person renting shooting from a tenant of the Crown cannot stand as the shooting tenant, since the sporting rights alone cannot be let. The only way for the shooter to obtain the shooting by payment would be by mutual agreement with the land tenant, but in case of a breach of the mutual contract there could be no recourse in law against the wrongdoer.

The legal tract of foreshore, where no Crown grants exist, over which the public may sport is that between the high-tide mark and low-water mark. Above the high-tide mark rent may be paid for the grazing, and in the tenancy some power to prevent shooting may exist. Of course shooting from a footpath is illegal, but where the locality is remote and the danger from so doing is of no account and the shooting is not restricted, the practice is not noticed. With regard to gathering birds falling on private land, the custom of leaving the gun on land where one has a right and then retrieving the spoil is recognised as in order. A dog, of course, may be legally used for such a purpose, but must not be allowed to range wantonly over the private land.

County Councils have the power to make orders regulating the times during which wild birds may be shot. These orders,

on the approval of a State Secretary, become law. Of late years County Councils in many parts of the country have prohibited shooting on Sundays on certain areas within their jurisdiction. These orders are said in all instances to have been framed on substantial grounds. County boroughs have like powers, but they do not avail themselves of these so readily as do the County Councils. Thus it may happen that orders obtained by a County Council do not apply to a borough which, though geographically forming part of the county, is for administrative purposes a separate entity. This may arise out of the inactivity of the one, or perhaps the undesirability of both exercising in a similar manner the powers within their scope. It generally follows, however, that points left out by one are touched upon by the other in a manner which is thought to be of benefit to the community at large.

To sum up the question concisely, it is erroneous for the public to suppose that they have certain rights on foreshores. In one sentence the fallacy of the supposition becomes evident. Where, in material Act or document, can the supposed right be shown? There is none. On the other hand, whilst certain persons do hold rights (I refer here to rights in every sense of the word), there are others who, like a large section of the public, suppose they have rights, proof of which they are no more able to produce or maintain than the public. It is this class that the shooting public should strive to counteract. Of course, shores over which Crown grants exist are out of this question. If a foreshore is rented, the tenancy takes with it the right to kill the game. In a case where trespass in pursuit of game occurs, the tenant, if under no restrictions regarding game, or the landlord, if he reserves the game, should prosecute. Land not owned or rented by individuals, or not under manorial supervision, is Crown property, and is regulated and governed by the Crown, directly or indirectly. As the

Government does not encourage or restrict shore-shooters unless it has serious reasons to do so, the Crown is generally considered neutral in this matter.

SHOOTING GAME ON FORESHORES AND CROWN LANDS

As to killing game on foreshores, it may be questioned very much whether this can be legally done where no grants of right exist. On tracts where no one can claim a right to prevent the public's enjoying sport, certainly no one can claim the game to be met with thereon. Consequently, for all the purposes of common law, a certificate to kill game keeps a shooter within the law, but, despite this, he cannot state that he has any right to kill the game on permitted foreshores. Before a person can state he possesses a right to shoot game he must either be legally permitted to do so by invitation or written permission, or be an owner or occupier of land holding rights to the sporting. With regard to foreshores and lands under the ruling of River or Crown Commissioners, the letting of sporting rights is not entertained. The tenancy of the land takes with it, in the ordinary sense, the sporting that may be involved. In reality, the sporting over Crown lands is vested in the Crown ; but, as the importance of such a right over foreshores may now be cited as neutral, the view as to any sporting rights has been likewise considered by those dealing with the affairs in question. It would therefore be just as likely to suppose (since the Crown has not exercised any enjoyment with the game on foreshores and small outlying properties) that to reserve any game rights would mean that no one could legally shoot game either as Crown tenant or free gunner. Such things are quite possible, however, and, if the Crown so wished, it appears that all shooting on foreshores and the shooting of game on lands under its control could be stopped. The tenancy of the land would, of course, under the Ground Game

Act, enable the tenant to exercise certain powers; but it is not likely that our Crown would enforce a matter which would be a veritable *bête noir* to the shooting public of the Empire. Since affairs as they now stand have been in existence so long, some may say that it would not be possible for them to be altered; this, however, is quite a mistake, and, as alterations are possible in this direction, it behoves the sporting public, especially the shooting section, of the United Kingdom to strive to maintain and watch closely their interests by considering whom they help into office. Combined with this very necessary present-day precaution, the mutual support of an organisation which studies and upholds the interests of their calling, is, it may be said without contradiction, indispensable.

TRESPASS

Regarding trespass, I cannot do better than quote a good authority: "At common law every unwarrantable entry on another's land is termed a trespass by breaking his close, and gives the owner of the land or the tenant in possession a right of action against the trespasser, even if no actual damage is done. Sufficient damage to sustain an action is in law the treading down and bruising the herbage, for which nominal damages can be recovered. The person in possession of the land can order the trespassers off, and, if necessary, use just sufficient force to expel them; but if the trespasser is not in pursuit of game he cannot give them into custody, unless actual breach of the peace has occurred, neither can he shoot their dogs unless they are damaging the property or there is a right of free warren over the land. In England, therefore, for a trespass not accompanied by damage to the property, there is no other remedy than an action at law, but in Scotland a prompt interdict can be obtained from the local court, and in Ireland there is a summary proceeding before Justices against trespassers refusing to leave after being warned, or repeating the offence."

LICENCES

For each dog kept for sporting purposes in England and Scotland it is necessary to take out a licence costing 7s. 6d. per annum. In Ireland a dog licence costs 2s. 6d. There is no reduction for a number, and no exemptions are made for dogs used for sport. Persons keeping dogs for others must hold licences for the dogs in their charge. Although, possibly, a point not likely to be enforced in law, the fact that a licence has been taken out for a certain dog does not permit its being transferred into the custody of the household of another person, unless the latter holds a licence to keep a dog. Paid servants keeping and training sporting dogs for their masters, are acting within the master's household. Professional dog-breakers must hold a licence for each dog in their possession. Dog licences expire annually in January.

A licence to carry and use a gun costs 10s. per annum. To shoot game, a certificate (which includes a gun licence) costing £3 per annum, or £2 for a less period, is necessary. £2 licences may be taken out from July 31 to October 31, or from October 31 to July 31. Short-period game licences costing £1, for a fortnight, are available. Gamekeepers in the *bona fide* service of masters holding legal possession of game preserves, can kill game under conditions in accordance with the law by holding a licence costing £2 per annum. All gun licences expire on July 31 in each year. The killing of game on Sundays and Christmas Day is prohibited. Wild birds which are not game may be shot at any time (except where orders are in force to the contrary) on unenclosed lands, where no offence is committed by holders of a gun licence.

WILD BIRDS' PROTECTION

The Wild Birds' Protection Act of 1880-1 provides for the protection of all wild birds throughout the British Isles, except St. Kilda, between the last day of February and August 1

in each year. Certain birds which are said or thought to be injurious to crops and enemies of game may be killed at any time by owners or occupiers of land, or persons duly authorised by owners or occupiers of land. Certain species are scheduled and cannot be legally killed by anyone during the close season. The list of birds named is very unsatisfactory and incomplete from an ornithological standpoint. Local names being used, the same species is in some cases mentioned as many as three times under different names, and many birds needing protection are omitted. As this matter seriously affects country folk and others who are not conversant with matters ornithological, I suppose we cannot easily alter the present arrangement. Some day, when everyone is supposed to know the various species of birds, a more practical and comprehensive list may be adopted.

With reference to the shooting of birds on free shores during the close season, it is important to note that no one can legally do so. Since a person, to shoot the unscheduled species of birds during the close season, must be either an owner or tenant of land, or duly authorised by such, it follows that no power exists with the free gunner to shoot unprotected wild birds in the close season, although many persons labour under an impression to the contrary, at the risk of being convicted should they carry out their erroneous ideas. County and Borough Councils have power to frame orders extending or curtailing the close and open seasons for wild birds. These orders, if approved of and sanctioned, in the case of Great Britain, by a principal Secretary of State, or, as regards Ireland, the Lord Lieutenant, become law. This has brought about a very confusing state of affairs. In the different counties the open seasons commence according to local orders. Some birds are protected all the year round, the eggs of certain species of birds are protected until such-and-such a date, others the entire season. To speak of all quarters in detail would require a large volume to contain the matter.

This question of protection is now so confusing that it may with safety be said that the sportsman is hardly likely to encounter anything more involved. Moreover, it is evident, I am sorry to say, that personal interest has been introduced in the framing of the bye-laws for the supposed better protection of birds, in some cases the main idea being to deprive sportsmen of many of the privileges hitherto enjoyed, or to curtail them. It is a thousand pities that such a state of affairs should exist, and, without doubt, I state that, unless steps are speedily taken to annul the progress of anti-cruelty faddists, we shall soon be in a state of deadlock. So confusing are the details of even well-meaning wild bird orders that it will ere long be found necessary to state something more general and dispense with local ideas altogether. Below, however, is a list of protected wild birds which is official. No attempt is made to give the varying local names of the species :—

American quail.
Auk.
Avocet.
Bee-eater.
Bittern.
Bonxie.
Colin.
Cornish chough.
Coulterneb.
Cuckoo.
Curlew.
Diver.
Dotterel.
Dunbird.
Dunlin.
Eider duck.
Fern-owl.
Fulmar.
Gannet.
Goatsucker.
Godwit.
Goldfinch.
Grebe.
Greenshank.
Guillemot.
Gull (except Black-backed gull).
Hoopoe.
Kingfisher.
Kittiwake.
Lapwing.
Lark.
Loon.
Mallard.
Marrot.
Merganser.
Murre.
Night-hawk.
Nightjar.
Nightingale.
Oriole.
Owl.
Ox-bird.
Oyster-catcher.
Peewit.
Petrel.
Phalarope.
Plover.
Ploverspage.
Pochard.
Puffin.
Purre.
Razorbill.
Redshank.
Reeve or Ruff.
Roller.
Sanderling.
Sandpiper.
Scout.
Sealark.
Seamew.
Sea parrot.
Sea swallow.
Shearwater.
Sheldrake.
Shoveller.
Skua.
Smew.
Snipe.
Solan goose.
Spoonbill.
Stint.
Stone-curlew.
Stonehatch.
Summer snipe.
Tarrock.
Teal.
Tern.
Thick-knee.
Tystey.
Whaup.
Whimbrel.
Widgeon.
Wild duck.
Willock.
Woodcock.
Woodpecker.

CHAPTER VI

WILDFOWL DOGS AND HOW TO BREAK THEM

What are the best breeds of dog for wildfowling? Some persons will say, Any breed that can swim and retrieve will make a suitable animal; but, alas! that is not the case. With reference to such ideas I at once contend that those who advocate the "thoroughbred mongrel" for any purpose in wildfowling are not likely ever to possess a good animal for this class of work.

It must be remembered that as much depends upon the handling of a dog as the breaking, and that if a person is unable to handle a dog he will soon spoil it, no matter how clever a working animal it may have been to start with. This applies accordingly to all grades of shooters. At the outset, therefore, it would be wise to observe that as much skill may be displayed in working a dog as in shooting. Working a dog satisfactorily is not a task anyone can perform even after years of experience. I mention this well knowing many people believe that, a dog being trained, anyone can work it, which is, of course, a palpable mistake.

To get back to our breed question, the inability of a person to see the advantage of any particular breed is invariably due to ignorance of the various breeds of the canine family. This is furthermore evidenced by his faulty selection of a breed. To arrive at a means by which a breed of dog may be chosen for such work as wildfowling, we might, for the moment at least, accept the theory of evolution in animals. As I have

previously said, some gunners advocate cross-bred dogs for wildfowling. If we had no suitable breed for the purpose, cross-breds would be required; but in time these cross-breds, with care, would become established types, and might be termed breeds, which is exactly what has taken place in the past. As we already have, however, what we want, this breeding nowadays would be unlikely to receive universal attention, and a new breed would therefore never become general. This state of affairs is exactly what does happen; consequently the present-day cross-bred animals never reach the top of the tree as a rule.

Since a new breed of dog cannot be instituted in a short number of years, especially now that we have very suitable breeds for all special purposes, this circumstance is not regrettable. We may all know that various breeds of useful dogs have through the ages past been bred and modified for particular purposes, and, as these purposes have slightly altered or remained constant, so accordingly has the wise breeder selected his animals. The average lifetime of man is not of sufficient duration to originate and well establish a breed of dogs—one that is noticeably different in appearance from our present breeds. Even if a man could breed something new within the limits of his life, I very much doubt whether he could produce animals of higher perfection in working than the existing types.

All these things being considered, the question resolves itself into this: can any cross-bred animals supersede the working abilities of those animals which have a long line of special breeding behind them, and this, of course, all for the one particular purpose? If cross-bred dogs can do so, then all our careful breeding is of no use, and has no object. If otherwise, then why advance the idea of cross-breds? I have gone rather fully into this point in the hope that it may rid the young sportsman of the many unfounded and, in short, silly

notions he may hear propounded on this subject by would-be tutors, who in reality are ignorant misleaders.

To begin with, the dog bred for a purpose has in it the elements of its work. In the crossed animal there must be a mingling which has some counteraction one way or the other. Perfect dogs owe more to their breeding than to their training and working. Several crude examples might be cited to show my meaning, the most forcible of which I will put in the form of a question : if we want white dogs, should we breed them from black ones? Of course, exceptions occur, but these in no way concern the general fact. In addition, selection by man is dependent to a considerable extent on the attainment of perfection in animal training, and on this point I will venture to mention the old saying, "What the Lord hath left out no man can put in." Here we have a point which very closely applies to the dog-breaker's work, and one of extreme importance.

A feature to be noted in all dogs, especially those which are to be the working servants of man, is their disposition and temper. I have generally found that when dogs have been well bred (by this I mean carefully selected and confined in breeding to one variety) their tempers have been mild, whereas in cross-breds the reverse has occurred. I do not say this is always so, I am only speaking generally and as far as my experience goes. In show-dogs we occasionally meet with bad-tempered champions. These animals, however, can only stand as exceptional instances.

Speaking of temper in dogs, my arguments may be better understood from the following. If we accept the theory of evolution, or, more correctly, variation under domestication subject to selection by man, in dogs, we must naturally agree that, according to their breeding, they are subject, if carelessly or cross-bred, to reversion in some shape or form, whether in outward appearance or temperament. By selection, we can characterise to an unlimited extent in the modification of a form.

If we cross varieties of one species, modification is certainly lost, for a time at least, and we invariably find reversion of some kind. This may not always be apparent outwardly, but usually it is particularly noticeable in the temper and behaviour of certain crosses of dogs. Cross-breds are, as a rule, not nearly so affectionate or mild in temper as dogs from a long line of good breeding. This might be taken as a fair instance, but it requires close observation of the tendency in the domestic canine family when crossed to revert to their original progenitors, which, we have been given to understand, were somewhat similar animals to the wolves and the jackals. I am very much inclined to believe that man and dog in prehistoric times made a naturally combined mutual agreement in the hunting field. We do know dogs are our oldest domestic animals. My remarks on cross-bred dogs, as well as pure breeds, are from long experience in shooting over them. Cross-breds are not nearly so devoted to their masters, they vary every day in their work, and are by no means so reliable as well-bred dogs.

THE IDEAL DOG

In a wildfowl dog we require a strong, brave animal. Too "fine breeding" with regard to selective appearance should be avoided. By this I mean—breed from only the strongest and best of your lot. Fine breeding, however, need not be feared if animals are chosen which have proved themselves good at their work. I have always had an inclination towards well-bred animals. I am sorry to state that my preference is not shared by all wildfowlers or gunners generally, though I believe the sooner it is the better will be the sporting results. I content myself by thinking that enough scope remains, no matter how small it may at first appear, for we cannot remain stationary with any living form, to improve our present breeds without seeking to make others.

A SHOT FROM THE HUT

A TYPICAL WILDFOWL DOG—CURLY-COATED RETRIEVER, FIRST PRIZE-WINNER GAMEKEEPERS' SHOW, 1908
(Owned by Mr. Leonard Rogers, Welton, Yorks)

The favourite breed of dog for wildfowling is, without doubt, the retriever. I have seen good workers in the three main classes—curly-coated, flat, and Labrador. So much depends on individual ability in working dogs, that to say one variety is better than another might raise a lengthy argument; yet I believe the flat-coated breed excels the curly-coated for "nose." This, perhaps, is due to the flat-coated retriever having been of recent years bred by many noteworthy gentlemen particularly for its powers of scent. Some part may also be attributed to the modern methods of shooting game. It is not wisdom to condemn a breed or variety of dogs on the merits of a few individuals.

The first thing necessary is to procure an animal which you think will be likely to make a useful wildfowl dog, taking its breeding and general intellect seriously into account. Remember that, unless the puppy is an apt learner, all your teaching and breaking will be wasted; thus it is wise to use every care in the selection of your pupil, or the result will be the expenditure of a fatal shot on its behalf, and this, worse luck, after many weeks of patient and useless labour.

Dog training is of two kinds—natural and artificial. Natural training is that which a dog naturally and readily learns, having presumably been bred for the special purpose, for which it possesses extraordinary developments of the necessary physical organs and faculties. This kind of training is never forgotten in an animal. Artificial training is, by constant teaching, temporarily established in a form by force of habit. I might cite here as an example, cataleptic pointing in terriers. Although this kind of training may be highly creditable to the teacher, unless animals so taught are constantly in practice they very quickly lose the knowledge or abilities which resulted from their previous training. Artificial training in sporting dogs has a limit, and this is forcibly apparent when those natural powers which are

the outcome of breeding, such as "nose," are called into requisition.

Besides the retriever, certain breeds of spaniel (viz. the English water spaniel, Irish water spaniel, and Clumber spaniel) make very good wildfowl dogs if carefully selected from working strains and well broken. They lack, however, the strength of the retriever for rough sea work, but in working reeds and rushes, hut-shooting away from rough and open sea-coasts, spaniels, especially those of the larger breeds, can make themselves more conveniently useful than the large retriever. Referring to other breeds of shooting dogs, such as the pointer and setter, we can scarcely hope to persuade gunners that these are suitable breeds for wildfowling, nor would we wish to do so, since it would, in the generality of cases, be misleading. As an instance, however, of what a well-bred retrieving dog of any breed may be encouraged to do, I refer to a pointer I once possessed. I do not wish to state that for wildfowling generally the pointer in question could equal the best retrievers I have owned, but as an instance of his abilities as a wise retrieving animal, I cite one October night. On that occasion I bagged sixteen curlew within an hour, all of which my pointer "Jack" retrieved from the tide as well as any dog could have done, and with a sagacity which is only noticed in well-bred and highly trained animals. The pointer, strange to say, is not, as a rule, a good water dog, which, of course, makes my dog's performance all the more remarkable.

BREAKING WILDFOWL DOGS

Now that we have so pointedly indicated the importance attached to the wildfowl dog being bred from a strain of working animals, we have next to consider the selection of a puppy. No better advice can be tendered than to select a strong, healthy, and intelligent-looking pup. He should be taken in

hand at four months old. The idea of having your pupil under view so young, is not that his breaking may be then started, but that he may, by careful attention, be prevented from acquiring many bad habits, such as jumping up, tearing things to pieces, and so on, which are troublesome to eradicate.

At six or seven months breaking should be commenced. For example, let us suppose we have secured a puppy of the right calibre and intend to break him. The first lessons should be to teach him to disregard everyone except his master, to follow closely to heel (in a leash at first), and "drop" instantly the word "down" is shouted. It will be necessary at first to press him to the ground, but after a few such pressings and by using the word "down" he will soon know exactly what is wanted. Carry out the "down" charge to extremes at first by shouting to him as he runs past, thereby teaching him to heed and act instantly to the order. This is not a great necessity in his later work, but it answers admirably the purpose of letting the dog know he is under attention and must act according to orders. After about a month of daily lessons of an hour's duration he should be under very good control. He is then ready to be taught the more practical part of his work.

Before going on to describe his breaking proper it will be well to add that the orders given the dog should be as concise as possible. What I mean is that the trainer should avoid long sentences and contrive his commands in single syllables if possible. This also applies to the field name given to the dog. My idea on this point is to choose a name of one syllable only, such as Jack, Knot, Bang, Nap, Duke, Cane, Eve, and Whip, avoiding two or more syllables and words with the "s" sound in them, which have the undesired result of setting a dog to seek when his name is shouted. I will note the words of command that I have found answer best, and later, as we proceed with the dog's breaking, the reader may

understand their utility. "Down!" "back!" "heel!" "seek!" "hie on!" "over!" and a few other such short orders as the breaker may choose to invent are easily understood by a dog. Phrases of encouragement should not be varied, for the dog will only remember the sounds of those mostly used; therefore it is as important to remember in what words and tone to praise the dog. The most encouraging are "To ho, good dog!" "fetch it on!" "seek him out!" and, on the dog complying with the sounds, "Steady, good dog!" should always be shouted in a tone by which the dog may know he is doing right. Scolding sounds are "'Ware, you brute!" "'ware chase!" "back!" and so on.

Up to the present stage of the dog's education a whip should never have been used. What he knows should have been taught him by words and actions only. The whip will be needed later. Before introducing the dog to his field work he should be taught to walk to heel, and not show a desire to run after poultry. The only practicable check against this at first, if the dog is inclined to chase, is a leash or "trash" cord of eighteen feet long, knotted every yard, so that it can be held tight when stood upon. He is now ready, we will suppose, to be taught to retrieve. A rabbit-skin, salted, and dried, and stuffed with worsted, is a good article for the purpose of teaching the dog to carry. First place it in his mouth and say, "Good dog! Fetch it on!" If a well-bred retriever, and he has taken well, so far, to his lessons, he will readily carry. He may, however, soon tire and want to play with it. Then cease further lessons, call him to heel, and walk on. The next lesson is to let the dog see the skin laid on the ground, and, walking a few paces away, send him for it. In this way he will soon learn to carry and become keen for the job. If he should do anything wrong, such as shaking or "nipping" the skin, he should be scolded, and if these faults are repeated, given one or two cuts with the

whip and taken in for the day. These are delicate points, which may develop into very bad habits, if the dog is not dealt with sternly at first.

After the pup has learned to carry well, the skin should be hidden or thrown into thick cover, and after a few minutes the dog commanded to seek. Never allow the dog under any circumstances to bolt or seek without a command. At first it may be too harsh treatment to flog him for such an offence, but he should never be let off without a cut of the whip, or he will develop the habit of "breaking" and giving chase. For this he should be severely punished. To flog a big retriever is no easy task. Seize him by the skin at the back of the neck, and in your left hand hold him close up to your left hip. In such a position he cannot bite you, and yet your right hand is free to flog him. Give him a severe thrashing; let it last three minutes. Before he begins to howl, shout to him sternly the words "'Ware chase! 'ware chase, you brute!" and try to make him learn the sounds. Unless chasing habits are well curbed in a dog he will prove endlessly troublesome. Trash cords, as used for pointers and setters, are useless for retrievers, if the dog cannot be brought down by the check close at hand.

Our puppy has now gone through the ordeal of learning right from wrong, and may be framing very favourably. So as to instil him with greater confidence he may be taught to lie down and allow his master to walk across a large field and, with a whistle, call the dog over. He may also be taught to go back half a mile and retrieve the rabbit-skin. This is done by gradually increasing the distance. These are items of no importance in the actual working of a dog, but they serve well to further the education of the pupil. Finally he must be taught to take the water. This a well-bred puppy usually does the first time, if the rabbit-skin is shown to him and then thrown into the water. Be equally as careful about

commanding the dog to fetch out of the water as on land. Throw in the skin, meanwhile keeping the dog "down," and allow a minute to elapse before sending him to fetch it. This will assist to steady the puppy and free him from desires to chase. If at first the puppy does not readily take the water, clapping and encouragement will be necessary to entice him to go. Never throw a dog in, or much labour may be required later to get him to swim and fetch at all.

The puppy is now ready to take its first lessons in company with its master bent on shooting. Equal care is needed in handling the dog when shooting a few birds over it, as when breaking it. Do not allow it to do wrong without a check of the trash cord or by word or whip, and be prepared to sacrifice sport for the welfare of the promising puppy. Many points will arise which may need rectifying, such as persuading the dog to fetch from across a stream, which, as likely as not, he will at first refuse to do. Patience and perseverance do a lot in dog-breaking, and if his tuition has been sternly carried out he will by words alone be induced to do many remarkable feats. When working for birds drifting on the tide it will be necessary to teach the dog to swim in the desired direction by waving an arm. A few lessons to a dog so far properly broken, suffice to teach this, because the dog will watch his master and soon note the direction in which he is desired to swim by the movement of the arm, until the bird may be seen. Shouting on an extensive shore is not audible when wind and water cause much noise. Several other points seen in perfectly broken dogs are only gained by long practice under careful attention. A good game-dog that can swim well and has been properly handled will invariably make a splendid wildfowl dog. Seeking crippled ducks amongst rushes and tracking running curlews which have been wounded over the marshes, are abilities in a dog subject to variation, according to tact or intelligence and scenting powers. Dogs with the necessary

RETRIEVED A MILE FROM ACROSS THE SALTINGS

"TO HO! GOOD DOG"

faculty—"nose"—can only be successfully taught this work by practice, and to have a dog thoroughly reliable on these and other points he must be two years old. Here I would remind my readers that retrievers in their first season should always be kept on a leash or a trash cord when at heel, especially if they are inclined to be headstrong. A leash often prevents a dog "breaking," which is a habit harder to knock out than encourage. The other extreme, however, is sometimes found in the shape of a cowardly animal, which is useless for wildfowling.

FINAL REMARKS

All puppies start or show signs of shyness when they first hear a gun go off. Strong-nerved dogs do so less than others. A few are slightly nervous, but soon become accustomed to the shots. From my experience about one in fifty retrievers (I do not here refer to non-working show-bred pups) is gun-shy. These animals never make useful dogs. Their shyness is a nervous disease, and if well rooted it cannot be cured; so it would be wise to have them killed as soon as this defect is noted. It is a bad plan to sell or give away dogs of this kind, or to foster them, since they may then live to propagate their infirmities in worthless puppies.

Wildfowling demands a greater variety of work from a dog than any other class of shooting; hence the importance of having a good animal. To those who are unable to break their own dogs I would suggest that before purchasing a broken dog the buyer should ascertain how and with what sounds the dog is worked, or, better still, see the dog at work, and thereby see and hear for himself. The dog, if a good one, may acquire the working instructions of a new master in time, but if by chance a totally different manner from that used in its training is employed by a dog's new master, we cannot wonder at the animal's inability to work well. The

best wildfowl dogs are only seen in the hands of those who understand how to break as well as work their dogs. We dismiss the point, however, by observing that an average dog is much better than no dog at all, though in the pleasures of shooting we find nothing to delight us more than a real champion working dog.

Good dogs need every care. Indeed they should have it, because they are worth it. Do not allow anyone to molest your trained comrade. Remember that he is highly strung and is easily spoilt by interference. I need scarcely add that attention to the dog's health is an important item relative to its working abilities. If a valuable dog is ailing, a wise man will solicit the services of a veterinary surgeon at once, but I would advise that the "vet." be a canine specialist. A dog failing in health may readily be detected by the dullness of its eyes and the heat of its nose.

A CARE FOR THE DOGS

CHAPTER VII

SHORE-SHOOTING

Hutting

It is my intention to describe the sport of shore-shooting in all its branches, viewed from a practical standpoint, and as applied to various quarters around our coasts. Each particular shore has generally some characteristic peculiar to itself, which demands the adoption of special methods to obtain successful results. As well as describing these specialities and the application of suitable methods, reference will be made to the various weapons and tools used in this kind of sport. Besides acquainting himself with his gear, the shore-shooter who would excel in his sport must gain a considerable knowledge of his quarry and its habits subject to the various conditions of tide and weather. He must also learn much in the art of "shore craft." If gifted with powers of mimicry, and thereby able to attract his birds by "calling," his chances of good sport over those who are unskilled in this branch, are very considerable.

I am afraid that it is a pretty general idea amongst gunners not conversant with wildfowling that shore-shooting is a mere matter of taking a gun and sauntering alongshore. No idea was ever more fallacious. With the exception of a stray, unwary fowl and a few of the smaller species of waders bagged at rare and occasional intervals, little will ever grace the leaves of his shooting diary. Possibly he may give up this class of shooting with an impression on his mind that it is not the mere bagatelle he had misjudged it to be, or, on the other hand,

he may resolve to learn something about the sport and renew his efforts. In most sports with the gun, especially driven-game shooting, it is most essential that the sportsman must be a good shot. This is no less true in the particular form of shooting under discussion if the gunner would excel, though in comparison many more items of importance are indispensable to the skilful shore-shooter. Amongst his quarry are some of the wariest and hardiest species of birds, which can only be secured in numbers under the most trying meteorological conditions. These circumstances require the shooter to be sound in every limb and constitutionally equal to the occasion. Shore-shooting, especially in winter, is not a sport for the weak and delicate; indeed, it would be very harmful. For the strong, shore-shooting is one of the most hardy, invigorating, and interesting classes of shooting that a healthy man can indulge in. Broadly speaking, there is in our islands no kind of bird-shooting equal to this, when the sport is good. All manner of shots may be presented to the marksman, from the busy, bustling teal, to the heavy and comparatively labouring grey goose, intergraded with the smart little redshank and the stately-moving curlew. The flight of all these birds is so different that the shore-shooter must be a skilful shot to account for all. This involves keen and accurate sight, and a practised knowledge of correctly judging distance. These are but a few of the primary qualifications of the shore-shooter.

Preliminary lessons at shooting schools are of inestimable benefit to the beginner, but the art of shore-shooting can only be practised and perfected on the shooting grounds which are the homes of shore-birds and wildfowl. It is of importance that the gun "fits" the shooter, or good results in shooting cannot be expected. Any respectable firm of gunmakers will gladly build a gun to suit any gunner, but it must not be

A SHORE-GUNNER'S BAG
1 HERON, 3 MALLARD, 1 SNIPE, 1 CURLEW, 2 REDSHANKS

supposed that having a gun which fits is all that is necessary to become a good shot. It is invariably the case that the most indifferent shots are those most faddy about gun-fitting. A good shot will make fair practice with any gun, but, of course, he will shoot best with a gun that fits him. Beyond tendering information which can be applied according to the learner's abilities, there are few things which can be committed to paper likely to serve of actual practical value in learning how to hit wildfowl. It is an art which can only be personally acquired, though its acquisition may be assisted. The appearance of the various species of shore-birds and wildfowl on the wing, their misleading flights, and the distance they may be from the gun, are all items of the greatest importance, and require accurate calculation before the shooter pulls a trigger.

Wildfowl are extremely wary birds, and so are the larger kinds of shore-birds. In shooting them perhaps as much art lies in the manner of taking the shot as in placing the charge of lead in the right place at the right moment. In shooting from an ambuscade it is necessary to keep very still and perfectly out of sight of approaching birds. Judge when they are within range, and cautiously yet quickly steal the gun to the shoulder, meanwhile keeping the muzzles dead end on. If the first-barrel shot is successfully carried out without the birds having previously detected your position, then you can safely set it down that you have acted rightly. At the report the birds will no doubt "toss." Now is your chance for the second barrel. If they have caught sight of you and "toss" before the first shot is fired, unless you are smart the chances are very much against a double kill. Do not move your gun-barrels from side to side. If this is done they will glint in the light and alarm the approaching birds. Another bad habit of the shore-shooter is to jump up like a "jack-in-the-box" to take a shot. After such unskilled movements a successful shot cannot be effected.

A few more remarks about distance judging, and the apparent nearness of fowl when they are really out of range, will, I think, be of utility to the novice. Perhaps the greatest difficulty the beginner has to surmount in wildfowl-shooting is calculating distance. I will take the curlew for example. This bird, winging past at sixty paces from the shooter, appears to the inexperienced well within range, yet really it is not more than once in five times that an expert shot can bring down a curlew with a 12-bore at such a range. Wildfowl appear near when they are well out of shot. Nothing but practice and experience teach the shooter the golden secrets of accurately judging distance.

There is yet another point to be observed with regard to distance in wildfowl-shooting. The fair killing range of your gun, if a heavy 12-bore, is on an average not more than thirty-five yards. Tough fowl like geese cannot be killed with any degree of certainty over this distance with a 12-bore, and for preference have them nearer if they will come. Do not hesitate to take shots as close as twenty-five yards. A good maxim is to remember that within thirty yards your gun is certain of killing, provided you hold straight; yet over thirty yards there is a doubt about its always doing so. Do not become over-eager to shoot before the fowl are within range; keep steady and cool; do not flurry in any movement; steal the gun steadily yet smartly to the shoulder; take pains and time in aligning the gun, and err rather in being too much ahead than behind. Master these points thoroughly, and you have gained as a learner the most important functions in the art of shooting wildfowl.

Much depends on colour of clothing when shore-shooting. For the generality of quarters a light sandy-brown suit is most suitable. At some quarters modifications of tint will be necessary to meet the requirements of the local colour of the surroundings. Whatever may be the prevailing tone,

always select some material many shades lighter. The best record I know of a certain bit of shore-shooting was made by a gunner clad in pure white upper garments hutted amongst chalk-stones, which formed a breakwater and extended some distance out into the sea. It was an eye-straining undertaking to detect this gunner as he sat motionless amongst the stones even at a few paces from his hiding-place. This is exactly what is to be desired under any circumstances. In stormy weather oilskins are indispensable, but, for a cap, a close-fitting oilskin is better than a peaked sou'-wester, which is sure to bother one when a shot is being taken, by tipping forward over the eyes. Oilskins are best made with the pure oil and a suitable drier, and not coloured with black or brown. Left as oiled, they are light yellow. A pair of sound water-tight boots are necessary to comfort. Thin leather thigh-boots are best, for then you can wade through the shallows and your legs are spray-proof. A pair of oilskin knickers, not extending below the knees, drawn over the top of the thigh-boots, will prevent splashes of water from entering the top of the boots, and so keep the wearer perfectly dry as well as partly damp-proof when sitting on a cold, wet seat. Do not invest in rubber thigh-boots. Unless the coast is sandy and the walking good and easy, rubber boots will not stand long use. With rough wear amongst mud and stones they soon give out, and it is after long years of personal experience that I advocate no other than leather boots for wildfowling, as they are warm and strong. Waders are useless, because kneeling and crawling over stones soon tear them to pieces.

As has already been said, shore-shooting may be classed as of two distinct kinds, which are in reality but two different methods of carrying out one and the same kind of shooting. The birds shot by adopting either of the ways are generally the same species, viz. waders and wildfowl. Undoubtedly hutting is by far the better plan of the two, as far

as results go to settle the difference, or, in other words, the shooter practising hutting invariably has better success than the one who chooses to stalk about. To some extent circumstances go a long way towards controlling the plans of the shore-shooter. Some quarters are unsuitable for hutting, and consequently other methods have to be adopted. In either pursuit it is always necessary for the gunner to be thoroughly acquainted with the habits and movements of his quarry, as they are affected by tides, winds, and other similar governing elements. Also, and with no less importance, the shooter should be able to "call" or mimic the cries of his quarry, for unless he is proficient in this art his chances of good sport are considerably lowered. It is equally necessary for him to understand the conditions with regard to tide times and the hour of day when his birds will most readily heed his deceiving calls. These details will be referred to later, but in the meantime it will be well to state that, unless close observation and experience are coupled with the advice tendered, the learner cannot expect to become expert, neither can he conceive those unteachable details of sound and circumstance. To assist the ready, apt, and willing learner is all I aim to do. More than that is impossible and should not be anticipated.

Before constructing a hut, first observe the daily flights of the shore-birds and other fowl as the tides compel them to leave their feeding grounds. Note their regular lines, and choose a spot where you will not be turned out until high water or thereabouts of spring tides. Weigh matters generally and decide in favour of a situation which will enable you to hide at top tide rather than retreat to take your chance unhidden. Of course, two huts might be built, but this is extremely laborious, and where shooters are numerous is impracticable, for one could not easily claim on a free shore all the best spots and hold them for emergencies. The best plan is to hit on one spot and stick to it, even if birds do not come

A GULL SHOOTER

your way at first. If you have made an error in striking the flight-line, endeavour to rectify it another day, for it will prove impossible for you to do so successfully at the time, especially after the flight of birds has begun. It invariably happens that it is better to stick to a bad spot, for a flurry, bustle, and rush elsewhere will be accompanied as a rule by bad and erratic shooting.

Your position chosen, the building of the hut is next to be considered. Build of material which will harmonise in colour with the various surroundings. A grassy bank in autumn has a brown appearance. Old baskets, timber, brush, bents, and such-like piled up and covered with grass pulled from around the hut serve well to construct the little hiding-place. Stones and rocks in places where the shooter chooses to "hut" are easily thrown up into very comfortable and suitable shooting holes. It is well and pays to spend some time and care in making a comfortable ambuscade; in fact, half the battle and, indeed, the pleasure of shore-shooting from a hut is secured by properly arranging things so that you can comfortably shoot at the birds as they come near. A bad shooting-hut is always unsatisfactory. Such conditions mean disappointment; thus it is wise to avoid them at the outset.

Two things to be observed are the size and height of the hut. The size inside should not be too large, or the birds will see into the hut and most likely spot your dog. Sufficient room for one man and a dog to comfortably hide and turn inside is all that is required. About five feet in diameter is near the mark. The height should be just up to the shooter's chest. Too low a hut causes the shooter to be cramped or leg-bent when about to take a shot, whilst one too high prevents the taking of low or water-level shots. These extremes are often the cause of bad shooting. Gain the right height, and the shooting will be much assisted—at least in comfort if nothing else. An entrance must be left, and if the shore-

gunner does not care to go so far as to elaborate his construction by making an entrance like the section of a snail-shell, he must contrive to have it facing the direction from which fewest birds are expected to approach.

Many modifications of the hut can be arranged by digging holes in sand-hills, cockle-shoals, and on the mud-flats. The same hints as given above apply with regard to flight-lines, etc., and it is merely a matter of personal attention to the varied details. A few grasses stuck around a mud-pit often give it a natural appearance and relieve the contrasting dark outlines of the mud-heaps thrown around. Where water per-

Section of hole dug in the mud-flats.

colates into the pit a deeper bottom corner should be made to collect the draining water. This must be kept bailed out, or the bottom of the hole will become very soft and uncomfortable. A bundle of straw or coarse grass will make the situation feel more pleasant, but at all times where water drains into a pit the shooter should be prepared to withstand a cold and wet outing. Sunk boxes and tubs are usually uncomfortable things to shoot from unless large and roomy, strong and watertight, which means much bailing and labour after each tide. If the box or tub is to be kept private (a practically impossible measure where shooters are numerous), a strong cover fitted with an iron or brass strap and a lock are indispensable. The cover can by means of a costly rubber joint be made watertight, but to keep it so means that the

WAITING FOR THE FLIGHT

design and workmanship must be sufficiently good to withstand the action of the atmosphere and water. Usually a watertight cover lasts but for one season, and even then it requires almost daily attention to see that nothing has been broken or that no one molests it.

A good seat is one of the things which add to the comfort of the hutted shore-shooter. It may be arranged from material found on the shore, such as an old box or a piece of drift timber. It is unwise to sit on cold, wet stones, or even the mud itself, without some lighter and warmer material laid on top. The seat should be high enough to place the head of the shooter conveniently above the top of the hut, so that he has a clear view all round. Where rough seats cannot be readily constructed a folding stool will prove of inestimable value. Nothing eases the shooter during a long, tiring wait more than a comfortable seat, especially when the surrounding conditions do not permit of a rough one being available. During cold weather I have known shore-shooters employ an overturned bucket to sit upon, a lighted candle inside warming the seat. Two air-holes are punched in the bucket, one at the top—the other at the bottom. Whether this is injurious to the body I do not know, but it is an easy means of ensuring a dry seat, if nothing else.

CHAPTER VIII

SHORE-SHOOTING

Working 'longshore

This may be termed the form of shore-shooting which is adopted when "hutting" is not practicable. The majority of gunners who visit the shore, seek to wander here or there in search of sport, and thus proceeding are generally termed 'longshoremen. Their sport is never so certain, taking a long series of trips into account, as that obtained by the gunners who have well chosen and built huts. With many shooters the plan of campaign is not previously thought out, and usually they are content to run chances of meeting with birds and trust to luck in getting shots. This is not shore-shooting. The 'longshoreman worthy of the title is one who foreshadows his sport, selects the days when the tides best suit his purpose, and so works that he may attain the best results from his studies and pursuits as much as the shore-gunner who always "huts." Some decision must be derived at with regard to the quarry to be followed, so that a suitable weapon can be taken.

Failing the possession of a varied fowling armoury, the shore-shooter must content himself with, say, a heavy 12- or a 10-bore, and use different sizes of shot in his cartridges. What is lost in one way may be compensated for in another; but so varying are the circumstances attending shore-shooting that the extremes are only competently met with by suitable tools, such, for instance, as the services of an 8-bore when in quest of geese, for here no smaller weapon will be equal to

the situation. Several of the accomplishments of the hut-shooter are also required of the 'longshoreman, such as "calling" and readiness to hide, keeping perfectly still, and taking shots in awkward and cramped positions.

One diversity affects 'longshore work, and that is stalking. Here alone is it of importance to the wildfowler. A clever stalker may be favourably compared with a good hut-shooter, though seldom are the two faculties prominent in one man. It invariably happens that good shots are bad shore-stalkers, and bad shots are good stalkers; strange though this may seem, it is nevertheless true. But what is lost in one part of the pleasure may be gained in another, and thus it may be said that with some a long, exciting stalk would be better enjoyed than a few really skilful kills. Shore-shooting admits of both, for if a wary bird is stalked to a long, yet probable killing-range, it is considered legitimate fowling to shoot at it sitting, since the chances of killing when the bird rises would be out of the question. Under these circumstances we can imagine the poor shot who is a good stalker to have some enjoyment, for surely everyone can shoot a bird sitting if the gun will kill! The pleasure here, it must be distinctly understood, does not lie in the shooting at all, but in the skill displayed in stalking and outwitting the wily creatures. This state of affairs opens up a new branch of the game—stalking and securing, by means of devices which assist the gunner, the various fowl and shore-birds to be met with on and adjacent to shore and marsh.

The stalking-horse is perhaps one of the oldest principles of stalking machines. It may be a live animal trained for the purpose or an artificial "gee-gee" specially constructed. The latter, as far as my experience goes, is undoubtedly the better, for, unless a very highly trained animal, a horse will become uneasy when nearing worthy fowl like geese, and spoil the shot. Besides, an artificial stalking-horse can be made a

deceiving size. Those stalking-horses made with strong oak frames, covered with not too heavy canvas, and painted brown, are most serviceable. The "animal" should always be made

Working the stalking-horse.

in grazing position. With a little arranging the horse may be made to carry the cartridge-bag and the gun on a rack. One side only of the flat horse is used. In working it the horse should show to the birds a three-quarter flank. Endeavour to circumvent the birds by moving as though to pass them. If approached directly broadside, the birds will not wait, but will detect the dummy at a glance. Much skill can be exercised in using a stalking-horse.

Taking a shot from the stalking-horse.

Modifications of the stalking-horse are made resembling a cow. These are worked straight to the birds and are two-sided and hollow. The shooter should take his shots from the

nose of the cow, the head being made so as to raise for the purpose. Another stalking-engine is a flat carriage with a low screen of reeds in front. This is only workable when the ground is level and fairly smooth. An artificial sheep in which the gunner can ensconce himself is a very useful and as a rule successful tool of the wildfowler. For geese the latter is admirable, and has on several occasions within my personal knowledge led to the destruction of many a wily goose. For stalking ducks in open creeks and ponds which have not sufficient cover on their banks to screen from sight the approaching gunner, a stalking-cow is decidedly better than a

Working the creeping-carriage.

horse, for then a bold, straightforward rush can be made and a smart shot taken before the fowl realise the deceit of the intruder. The horse is the usual stalking-animal. I have seen it used most successfully on golden plover. For successful work of this kind at plover a heavy gun is essential—at least an 8-bore, and for preference a stout single. Few second-barrel shots are, as a rule, obtainable, since a stalk invariably results in a long shot at the best. Stalking-machines are only to be worked with success where cattle are allowed to stray. On open flats and sands they are useless. The chief places where stalking-animals are of most service are saltings (flat and rough) and inland pastures and barley walks.

On the open shore the stalking gunner has to seek the shelter of rocks and other prominent portions of land. If

these are not to be found, his chances of stalking any fowl are remote. On mud-flats, stalking wildfowl without the aid of a small punt or some such flat-bottomed float is usually impracticable, but it is not beyond the range of possibility to have channels cut in the mud along which to crawl. This kind of work is very hard and frightfully dirty, but nevertheless it is practised with success in some parts of our isles. Towards nightfall shore-birds and wildfowl are less suspicious than during the day—at least they seem to lose much of their usual wariness, and consequently are then more easily stalked. A primitive craft like a "mud-boat" or "skid-board" can, with a skilful worker, often succeed in nearing within range of the fowl. Here keen, quick sight and sharp hearing are highly necessary faculties for the fowler. Perhaps this form of shooting connects shore-shooting with flighting. It is one in which the fowler has to work to fowl intent on feeding, and, like flight-shooting proper, to gain good sport, he must be where the fowl come, and therefore the two branches of shooting are very similar, except that in the latter case the fowler seeks his shots on the ground.

CHAPTER IX

SHORE-SHOOTING

Day-Flighting, Calling, and Decoys

This class of flight-shooting is distinguished from that practised at twilight, night, and dawn by the birds being compelled for some reason to seek fresh quarters. It is usually not a regular habit except under special conditions of weather, and in many cases is due to migration, either local or otherwise. The daily movement of shore-birds as influenced by the tides is perhaps a minor instance of what occurs with wildfowl under circumstances which have the same effect; but the flighting of shore-birds to and from their feeding and high-tide resting grounds is so regular that it is not classed as day-flighting, because the shore-shooter meets ordinarily with these flights. Day-flighting is really the shooting of birds moving from one quarter to another for special reasons. Weeks may go over without any day-flighting taking place; then for days a flight of birds may occur. Shooting of this kind may sometimes be enjoyed on a coast where at ordinary times no sport is to be had. With ducks and geese, day flights are chiefly caused by storms. At such times these birds will fly for days, passing the same spot on the coast in flocks at varying intervals, ranging from five minutes to an hour, between each. The sea being rough, ducks cannot rest in comfort. Dreading to shelter in the bays, lest they be shot at, they will fly the coast-line and keep on wing all day, perhaps making long circuitous flights to sea. They invariably head the wind alongshore. After a couple of rough days they become tired, and will then seek

shelter. Now is the fowler's chance. He selects a spot in the line of flight and takes toll of the passing birds. All the flocks, it is remarkable to state, although they are undoubtedly out of sight of each other, usually fly the same route; thus, once hitting off the correct line of flight, the fowler is in clover. When the ducks, after being buffeted for days at sea, take to sheltering in the bays, the shooter whose stand is in their line of flight may expect good sport. At such times duck (the surface-feeders, such as mallard, widgeon, and teal) readily cross headlands and points on the coast. The reason all go in the one direction is probably due to their seeking shelter in the same quarter. To a degree this is much the same with night-flighting, when, of course, the duck are making for the same feeding ground. Shore-bird flighting may be enjoyed when the weather is beautifully calm, for in the case of these birds it is a matter of migration pure and simple. Such sport is occasionally secured miles from a point of the coast which these birds haunt daily. Possibly the flights of shore-birds which pass, sometimes for days together, along a coast, are migrants which have reached our shores from across the sea, and are making alongshore to the nearest suitable quarter. Day-flighting at plover (golden and green) often occurs after or at the beginning of a hard frost. No doubt the plover are then changing quarters. At such times very large bags have been made, for as things often turn out, the plover fly incessantly in small trips from daylight until dark.

With regard to migratory birds, we might enjoy much more sport at these were it not for the fact that many migrate at night, and it is only when they choose or happen to move by day that we meet with them. On the coast one never knows what may be met with. I have known a flight of wood-pigeons to last a week, during which time one gunner alone bagged a hundred and forty. At the migration season of the year, especially November, owls, hawks, crows, wood-pigeon, in-

CALLING THE CURLEW

numerable larks, thrushes, and blackbirds may be seen passing either inland or along the coast. At this season woodcock arrive, and occasionally when tired, seek shelter wherever it may be afforded them on the shore. Some good bags under these circumstances have been made at woodcock. Needless to add, it is necessary to possess a game licence to legally shoot woodcock. Under the present state of the Game Laws, £1 is the amount charged for a game certificate for the shortest period, and, as this is considered by most shore-shooters who do not regularly shoot game to be beyond their means, woodcock are often shot without a licence, and the law is consequently broken. It is a pity weekly, or even daily, licences are not issued.

CALLING BIRDS

The most important feature to be observed when the gunner has become proficient in the art of calling is a suitable place to call from. Be he merely walking a shore and temporarily hiding to call a bird within range, the said bird must have some object in "taking" his call. If the bird takes no heed it is evident (if the caller is a good mimic) that nothing in the objects of the bird's daily movements invites it to take notice of the call. It must appear reasonable to all that unless some necessity of habit in the form of flight-lines, feeding grounds, resting grounds, and such-like impels birds to take notice of calls in aiding their social welfare, little else will. Possibly it may be rather more clearly understood, though not quite, what really does happen if one says that a shore-bird will not take notice of the call-note of another of its species, without some tolerable, and indeed necessary reason. We can say that the times when shore-birds—in fact, all birds—pay most attention to calling, are those when, following out their natural habits, they find it most convenient and remunerative for them to do so.

From a human standpoint this is reasonable, but the difficulty of bringing the theory (for it fades into such) into useful

practice, by knowing when and how the birds will act, is indeed a great one.

As has been hinted, we here see that in noting carefully by observation the conditions under which shore-birds are likely to be attracted, we gain half the battle in the art of calling. The expert caller never fails in uttering exactly the tones which will attract his birds, but often his calculations of probably suitable conditions are frustrated. It is absolutely impossible to teach anyone all the fine details regarding circumstances which affect shore-bird calling, unless long experience is coupled with the lessons. The rough outlines may be briefly touched upon, but to enter into every item (which in various quarters are usually slightly different) would be an impossible task. Shore-birds do not take the call well, as a rule, on their feeding grounds. These latter are too extensive, and sight here (except in pitch darkness) is the prevailing faculty. High tide, when all the shore-birds are floated off their legs and compelled either to fly at sea or seek out resting grounds near high-water mark, is always a good time, but best of all is towards night. Spring tides which flow high and leave but little suitable ground for the birds to rest on are the best tides; in fact, at many places where the foreshores are extensive such tides are alone suitable. Seek the spots where the birds come to rest. If the birds are too wary to alight by day (as they become at some places), try them when the tide flows an hour before dark. Then, of all times, may the good caller enjoy some sport. It must be understood, however, that the shooting is only got by calling, and then only when the right time occurs. Failure, it may also be added, might seem apparent with even the expert caller, when the birds, flock after flock, pass him just out of range. He, however, persistently calls, well knowing that when the light of day a little further departs, his quarry will increase in boldness and give him the much-longed-for brisk half-hour, in which time he can easily secure

A SUMMER HAUNT OF THE WILD DUCK

HUTTED SHORE-GUNNER CALLING

a dozen worthy shore-birds—godwits, plover, and curlew. Once a "take on" to the call is commenced, unhesitatingly will the birds approach the shooter if the mimicry is good.

What seems to dishearten the learner in the art of calling, who has attained what might be termed an advanced stage of shore-bird mimicry, is to see his birds pass him without heed when circumstances are undeniably suitable. This will occur with the best shore-bird callers. I have known curlews pass and repass a point for over two hours without the slightest inclination to heed perfect curlew calls; then, as with a telegraphic impulse, the birds have come close up. On such occasions they come, flock after flock, very quickly, and, unless a good dog accompanies the gunner (for most birds at such times drop in the water), few will be bagged, but drift away on the tide. Imperfect calling will attract curlews on exceptional occasions, but many of the birds might have come without the calling. If a shooter is a bad caller, he had better not attempt calling in the field when shooting. What chiefly happens amongst a "band" of callers hutted along a shore is that the bad callers frighten the birds to the good callers, who are then credited by the former with drawing birds from them. The bad callers forget the assistance they have given by frightening fowl which they might get a shot at if calling had not been attempted.

In learning to call, first of all the shooter must become able to whistle loudly with two fingers of one hand in his mouth. Unless he learns this he will never call satisfactorily, and had better give up at the start. The language notes, which are the most "killing," can never be produced on an artificial instrument, since a great number of reeds would be required and a more skilled performer than an expert piper to use them. Think of a whistle able to produce a great number of notes in varying keys, and the call-whistle is yours; but artificially there is not one within the range of the shooter's service except that of his fingers and mouth. The first and third fingers

of the right hand are customarily used. This enables the gunner to hold his gun in the left hand almost ready to lift for a shot. Here some practice in calling and holding the gun-muzzle towards approaching fowl may be needed to acquire the position with perfection and comfort.

When the whistling and rough outline of the call-notes are mastered, hie away to the coast and listen to the birds. Follow them day and night. At night their notes are in certain cases quite different from those uttered by day. The shore-birds are "talking." Talk with them and you are perfect. Hark! "Kurr! kurr!" then a high-pitched short pipe and a quickly followed rattle of short whistles, and along the shore approach in the gloaming a small flock of curlews flying at twice their normal speed. The expert shore-gunner has heard them, and on the air is piped a thrilling half-drawn curlew call. The birds hesitate; now is the time. With all his knowledge of curlew talk, the gunner then pours out a volume of quickly whistled loud and low alternating notes. In this way a flock of curlews is by the caller represented as calling to the flock on wing, which, with an unhesitating sweep, swings in the shooter's direction. They have been deceived again, the perfect numberless notes having actually persuaded them that a flock of their kind had asked them to alight, and, being anxious to do so, they eagerly respond in voice and action. This is an example of attractive calling. The reverse would have been the case had the shooter weirdly whistled the long-drawn alarm "kurr-lee-kurr-lee"; every bird would have tossed itself and fled. Thus the importance of uttering the right sounds. First learn the ordinary calls and mimic them accurately; then study and practise those which form the language, so to speak. Calling can only be learned, practised, and perfected in the haunts of the birds, but a few hints regarding the most attractive notes can often be secured from practitioners in the art. The learner would do

well, when able to whistle strongly and clearly, to solicit a personal lesson from an expert friend or other whom he may know. Failing this, there is no other alternative than to persevere by practice and become perfect by experience.

As has been said, suitable times must occur for calling to prove successful. Of course, at unsuitable times it would be a waste to attempt calling; but there seem to be exceptions in all things, and thus it is that a shore-bird will occasionally come straight to a caller when no reasons other than the call are apparent for its doing so. In these cases the birds are new arrivals, and, although the tide may be out, they have not gained the run of the feeding grounds, and probably fall victims through their readiness to make companions. Few birds, however, will be shot in this way—merely the odd simpletons, who are invariably immature birds. When the tide is out and a bird is passing, unless it takes a turn towards you at the first call, do not continue, as further calling will be useless.

Many birds have the power of ventriloquially producing calls. This power, I honestly believe, conveys between the communicants something akin to the language notes or talk. A shore-bird—take, for example, the curlew—when calling on wing and approaching others on the ground, will modulate its notes from a loud high-pitched note, if danger or alarm is suspected, to a soft low pipe, after satisfying itself all is safe and the situation genuine. These are no doubt very fine points to note, but nevertheless they are correct. The non-caller will never note them, whereas the caller will readily detect these niceties so attracting in his calls, and thus adopt them, well knowing they are the keynotes of his successful practice.

To prove what I have written, or, rather, more closely show the meaning of modulations in calls, to say nothing of ventriloquism, I will refer the reader to the call of the greenshank. This bird has but one call, yet in it there is a language, undeni-

ably. Alarm a greenshank and note its call—a sharply-uttered loud "tue-tue-tue." Listen to him when in search of a mate; his notes are the same, but much slower, and they have a softer sound—i.e., not so shrill. It may be seen that to call the greenshank's notes sharply would be simply to alarm the bird and tend to drive it away, rather than attract it. This is a crude example of modulation, but it may serve to illustrate my meaning and show the importance of observing what might be termed trifling details by the careless and unobservant. These remarks apply equally to ventriloquism. I might cite the corncrake as being a good example of a bird possessing ventriloquial powers. He does not use such powers without some natural service being at the end of it all. Study this bird closely, and you will soon note the fact. There is but one month (May) he will come to a call. Listen to the corncrake grinding in the meadow: all the calls are of one strength of loudness. Call him (I say "him" because he will be a male if he comes) by using part of a hand-saw blade and a strip of hoop-iron. He may on first hearing your call fly within a few feet of you, but, seeing you, he will drop, and, though only perhaps ten feet off, he may call, and this call to you may sound as coming from half-way across the meadow. Further, he may for some minutes run round (out of sight, of course, in the long grass), grating away. Now call him, and note how he calls. The ventriloquism is truly wonderful. As he suspects the genuineness of your call, his "crakes" will appear farther away. Cease calling, and without doubt he will strike up full power again, thinking his rival has departed. Now, if the corncrake uses the power here alluded to, I think my readers will admit that shore-birds can, and in my opinion do, employ the same method, though, of course, not in such a marked manner. Suffice it to say, however, that enough ventriloquism is practised by shore-birds to make this feature noteworthy to the shore-bird caller, and, indeed, highly essential when

HARD HIT! DUCK SHOOTING OVER DECOYS

perfection is claimed. The modulation of notes, their lengths, and reed-tones are easily mastered by the apt learner, but the ventriloquial effects are not.

The most effective manner of producing this special calling is to whistle softly, and lower the head to mimic distance for the "all in order—approach" calls, and to raise the head and pipe clearly for what sound as the close-at-hand signal pipes. My notes here chiefly refer to curlew calling. It must be noted that, although I have chosen the corncrake to instance my meaning, its use of ventriloquism is to deceive the intruder without alarm to its kind, whereas in the case of shore-birds it is adopted to impress or convey something they are unable to say otherwise. I cannot go further, but I do know that in using similar methods of calling, lies one of the main secrets in shore-bird and wildfowl calling. A proof that the finer arts of calling birds in our isles have not been much studied, or at all events much perfected, may be fairly instanced by the fact that out of the very small proportion of shore-gunners who do call, not 10 per cent., in the ears of an expert, can be deemed perfect. Whether the expert can judge as well as the birds themselves, may be considered a mystery never to be solved, but it is enough to say that if the practised ear cannot detect a flaw or difference the artist may be termed as at least near the mark.

Just one suggestion before concluding my remarks on calling. Always strive to keep your calling fingers clean and dry. Not only is it nasty and unwholesome to dab in your mouth fingers wet and muddy, but remember that salt water will soon cause blisters, resulting in scabs. These readily heal, but they prevent further calling. A soft handkerchief to wipe the fingers must not be forgotten. Of course, it is impossible to avoid wetting the fingers when taking a bird retrieved from the water from a dog's mouth, but drying them is quite possible. I emphasise this point because some of my readers will wish to learn calling.

DECOY BIRDS

Decoys are seldom used by shore-gunners. In the majority of places the conditions are unsuitable. Where decoys are used by shore-gunners the quarter is usually marshland or non-tidal foreshore wherein stagnant "fleets" (once creeks or runners to the sea) are to be found. In such places decoy birds (for convenience of transport always artificial) are employed with more or less success. On the sea-coast or estuary shore, decoying is generally a failure. The only time at which decoys might be useful at such places is during storms, and then they would simply have to be floated where ducks would naturally come to seek shelter. Thus it is found that sport at these fowl would be enjoyed without decoys. Sea-ducks seldom come well to decoys near land. They are better decoyed near a boat. Game ducks—mallard, teal, and widgeon—from my experience, do not readily "take" decoys anywhere near open seashores. This is remarkable, since on inland lochs and such places they are very eager to join decoys anchored in smooth, sheltered water, especially when a "blow" is on. Ducks and occasionally geese are the fowl decoyed. Decoy shore-birds, from the shooter's standpoint, are practically unnecessary when calling is skilfully carried out. Artificial decoy birds most attractive are well-stuffed specimens of the birds themselves; but, as these will not stand knocking about, it is invariably found (unless circumstances are convenient and great care is exercised in handling the decoys) that artificial birds last longer, and if well constructed act almost as well. Ducks and plover are usually made of wood or cork. I have seen some very roughly made cork ducks answer their purpose well, especially for sea-duck shooting at sea. Rubber decoy ducks which may be inflated are made and sold. These answer well if carefully used. Tether decoys afloat in a close line on the water. Set plovers, waders, etc., a little apart.

AN ANXIOUS MOMENT—DUCK SHOOTING OVER DECOYS

CHAPTER X

MOVEMENTS OF WILDFOWL AND SHORE-BIRDS

At the outset, the uninitiated shore-shooter will do well to note roughly what are the general habits of his quarry as they are affected by the tides, winds, and other changing elements. Of course, there are no absolutely fixed rules determining how the birds will act under changes of weather and and so on. Like the habits of every other living thing, we find here and there exceptions; but these, in the case of wildfowl and shore-birds, are very occasional. It may be stated that wildfowl are decidedly regular in their movements. In some cases they are too regular, and it is the periods when they behave irregularly with which the shooter should strive to acquaint himself. When the finer art of calculating where the birds will strike a line of flight from sea to land, according to the direction and strength of the wind, has to be undertaken, we arrive at the greatest achievement possible for the shore-shooter.

Swans are regular visitors to our islands, but their habits to the shore-shooter are of little importance, as they do not regularly figure in his category. Geese (except during very hard weather) always feed by day. Brent wing in from sea to feed on the "zos" weed of the mudflats in the early morning, and wing seawards when they have fed or towards night. Sometimes during land winds they will feed at sea on floating weed, and therefore do not visit the flats for days together. Bernacle geese are marsh feeders. They frequent the tideways during the night and repair at daybreak to feed. Grey geese (the pink-footed species, now the commonest

during winter in the British Isles) leave the estuaries and such spots where they spend the night, at daybreak, and seek out large fields and moors where grass, scattered grain, and shoots of clover are to be found. In the afternoon they repair again to the tideways or large inland lakes. Ducks (except sea-ducks) feed by night, though when undisturbed or during bad weather they also feed by day. Their general habits are to "flight" from the open waters at dusk and feed by night on the stubbles and inland marshes. Widgeon delight in feeding on the same food as brent. This food is a long weed with succulent white roots which grows on the mudflats in various estuaries and on the coast. Its scientific name is *Zostera marina*, but it is known in many places locally by gunners as "wrack grass," "zos," "widgeon weed," and so on. At daybreak the ducks seek the open seas or bays for safety during the day, but if the weather is boisterous they will fly along-shore in trips searching for a safe shelter. At such times they also often resort to the mud-flats, and should any fresh-water stream run through the flats at low tide the ducks will be found during bad weather in incredible numbers sporting and drinking, or else dead asleep in the vicinity of such quarters. But ducks are hardy fowl, and little shelter will suffice them; thus it is only at places where the tide recedes far out from the mainland that ducks may be met with availing themselves of such conditions. The sea-ducks feed day and night, according to tide times and condition of the weather.

Shore-birds—i.e., those of the wader tribe—are very regular in their habits in winter. As the tide flows and so covers their feeding grounds, shore-birds of the commoner kinds, such as curlew, plover, gotwit, red-shank, knot, and dunlin, wing in small parties higher up the estuaries or along the coast to places where sandbars, salting edges, or islands are to be found, and on which they may rest until the tide recedes. Their chief feeding times are governed by the tides; thus it is compulsory

FLIGHTING TIME

for them to seek their food both day and night. They feed most greedily between half-ebb and ebb tide, but when high spring tides are running, which keep their grounds covered so long with water, they become anxious to feed as soon as the tide has left bare the first tract of feeding ground. In autumn, when high tides occur and no resting-ground on the shore is left bare at top tide, the shore-birds will often resort to large pastures, fallow fields, and such places inland. If disturbed they then take wing to sea, where they will fly for hours together until the tide again ebbs. Shore-birds of the larger and more worthy kinds, such as curlew and godwits, when much persecuted become exceedingly wary and fly high when crossing what they know to be dangerous spots; but in the usual course of things these birds if unmolested make their daily tidal flights at no great height. Flying against a strong wind, they merely skim the ground, only rising a little to take the banks. The shore-gunner in quest of shore-birds should aim to "hit off" these flight-lines of the birds.

FLIGHTING

We have already referred to this subject as being classed in two ways, namely, day and night. Day-flighting happens irregularly, whereas what is termed night-flighting occurs daily—morning and evening—during the shooting season. It matters little what birds are being pursued by the shore-gunner, the general rule applying to flight lines of one class—if a rule can be laid down—applies to another in an equal degree. We will take duck-flighting, for example. Evening flights generally result in better sport than morning flights. This may be accounted for by the fact that in the evening the birds are hungry and anxious to reach their feeding grounds, whereas in the morning, after having had their fill, they are not in any great hurry, and often do not wing seawards until disturbed. When a flight-line of ducks is struck, observe the direction and strength of the wind. Unless the gunner is informed he will have to

locate the flight-lines for himself. On still evenings the birds will invariably fly a regular line, but keep high. All that can be done is to wait until the last lots come and chance their being lower, which, as it gets darker, is often the case. On moonlight nights duck will often wait until the moon rises, if about an hour after dark, before they take inland. Clear moonlight nights are useless for duck-shooting; those when the moon is veiled with patchy white clouds are the right ones, for then the shooter can easily see his birds outlined against the white clouds. For flight-shooting at night the gun must "fit," or the results will be bad, as it is snap work at its best. Unless a good dog accompanies the sportsman the birds are better retrieved as shot, for if wounded and left for a brief moment they will be lost for a certainty. To the beginner, flock after flock of ducks winging inland over or near one particular spot will no doubt stir him to ask, "Why do they all come in at the one point?" This is not a difficult matter to understand. It happens that the small flocks are rising from or about the same spot at sea and making to the same feeding ground inland, taking, of course, the same route, only a brief space of time after one another.

Flighting at its best lasts but for a short half-hour, so it behoves the shooter to make the most of his chances. Duck will head the wind when practicable. If the wind is blowing strong ahead of them they generally keep lower, but if much shot at, night after night, they will be "up" at any cost. A strong wind blowing with the birds, has the effect of bringing them either very high or very low. They seldom fly at their usual height when the wind is with them. Changes of wind are often instrumental in altering the general lines of flight of the birds, and when strong always result in keeping the ducks low. The changes and strength of the winds as they affect the flight-lines of the birds should be carefully noted, and, should the gunner find from experience that, say, a

strong wind from the south springing up after a light westerly wind results in bringing the ducks low over So-and-so, it will, if again occurring, have the same effect. This is an instance where experience shows to advantage; thus it is wise to note carefully these items for future use. What usually happens—at least, in ten cases out of a dozen—when duck divert their line of flight owing to changes of wind, and especially at the evening flight, is that the birds come earlier and fly lower, even if the wind is not particularly strong. This may be accounted for by the fact that duck fly a flight-line by landmarks, such as a large hedge, farm buildings, and watercourses, but when doing so they are invariably high and regular in their movements, which would lead us to believe they are familiar with and safely moving over the route. Now, when a change of flight is to be taken, it would appear that they set off early and keep low, so as to note their bearings in the weak light. Duck can, perhaps, see better than man at night, but, of course, they are equally handicapped by the darkness.

Day-flighting, previously referred to, is simply caused by the birds seeking shelter. These movements are not regular except during special conditions of weather. As this class of sport is sincerely fascinating and may be better understood by an account of its practice, I relate the incidents of a day spent by the writer and a friend some years ago. The scene of my narrative was one of the rocky points which lie to the south of Holy Island and the Farnes, on the Northumberland coast. In late winter huge masses of brent and big companies of widgeon frequent the slake (Fenham) near Holy Island. When the sea is rough and gales are raging, sport at ducks and a few brent may be obtained at several rocky points jutting out into the sea and situated along the coast-line many miles south of the islands previously named. A sea of foam roared in the screaming wind. As far as the eye could carry, the

broken surf looked one vast sheet of white. Each in a rough ambuscade composed of boulder rocks and stones, my friend and I ensconced ourselves on one of the points mentioned. We had not long to wait. Heading the north-east gale, struggled on with remarkable progress a long string of about fifty mallard. Unfortunately, these birds passed just out of shot. The mallard had scarcely dwindled out of sight when we discerned a dark clump of birds approaching from the south along the coast-line. On they came, battling against the gale; they were brent. Just as they passed between my friend and me, they "strung out" into line and afforded both of us a good chance to score. With an ounce and a half of No. 3 shot from my 10-bore double, I killed my first bird clean at not more than twenty-five yards range. My second shot failed to take effect; probably I missed. The second-barrel shot was a very awkward one, for as the geese "speeled" or rose alarmed at the first report they quickly drifted back with the wind over my head. My friend secured a double kill, both birds falling stone dead on the point. His second bird was a long shot. My friend's gun was a Greener double 8-bore—a very powerful shooting gun. We had just got resettled after gathering the geese when, like a flash, there darted past us a drove of black duck (scoter). Before we could snatch up our guns they were past, going with the wind like streaks of lightning. Then a very large company of widgeon came. Out of this company of birds, with the united effect of both guns fired almost simultaneously, we brought down seven, and another, carrying on, fell dead in the sea. This last bird, of course, could not be retrieved, even with the aid of a dog. The sea was raging like a boiling pot over the rocks, and to have urged a dog to face such water would have been inhuman. As these widgeon passed, some of them were so close that I could distinguish the handsome cocks from the sombre hens. They were bunching just nicely, when the report of my friend's gun, sounding in the gale like

"GOOD MORNING, SIR. GOOD SPORT?"

the mere crack of a whip, caused them to "jump" and squander, affording me a much inferior chance of scoring a heavy shot. Duck flew almost incessantly for hours, and all, except the sea-duck (which seemed to defy the storm and alight in the foaming surf of the bay to the south of us), were flying in the one direction—northwards. The task to be successfully performed was to let the duck come close up, aim well forward and high, and every time the shot told. About noon the tide ebbed sufficiently to uncover the feeding and resting grounds of the fowl, and the flight then ceased. We bagged between us thirteen and a half couple of duck and three brent—as nice a bit of rough sport as ever fell to our lot with the shoulder gun. On returning homewards we learned the sad news of a schooner having gone ashore that morning on the E—— Stone, a small rocky islet a short three miles to the south, all hands perishing. What had brought us sport, alas! had caused sorrow in many a distant home.

Some good sport can at times be had with the sea-duck, such as eider, scoter, long-tail, and scaup, at many places around our seaboard. At one spot on the north-east coast of Yorkshire, with which I am familiar, I have had at times some good fun at the sea-duck. Three or four guns join and go off in a boat. Half a dozen decoy duck (made roughly of cork and tethered about twenty yards from the boat) are used to attract the fowl. The best time is when the tide has half flowed. The duck then come in from the open sea to dive and feed in the shallows over the rocks and mussel scaups. Sea-duck fly exceedingly fast and afford good sporting shots. These duck, from their practically wholly maritime life, are of very little use as edible fowl. Some people eat them, but surely their tastes are inclined to be fishy, otherwise they could not relish such dishes. There is no means by which these duck can be completely freed of their fishiness. When sea-duck become wild and shy (which is generally not before they have

been much shot at) a flat-bottomed craft something after the lines of a proper duck-punt, but deeper, will often deceive them. They take such a punt to be a larger boat further from them than it really is. Scoter duck, speaking from a general standpoint, lack the keen cunning which is so remarkable in the mallard, widgeon, and shelduck. The golden-eye, pochard, and tufted duck are in many respects wary fowl, and when driven from fresh water to the tide by frost they join flocks of scoter, longtail, and scaup, and to a degree lead or post themselves on guard for the welfare of the community and disappointment of the wildfowler. Sea-duck, when intent on a particular object, almost invariably fly straight on, heedless of any immediate or proximate danger. Even a flurried visible movement of the gunner fails to alter their straightness of flight. It is a well-known fact, however, that birds behave in varying manners at different places, and the actions of a species of wildfowl at one spot cannot be fixed as the general habits of the bird. The best sizes of shot to use for sea-duck shooting are Nos. 3 and 2. A weapon not less than a choke-bored stout 12, capable of firing a heavy load for this gauge, is required to kill sea-duck, for they are very tough fowl indeed.

Another form of flighting not yet referred to may often be enjoyed near the coast. This is plover-flighting. The species are the green plover or lapwing and the golden plover. These birds are day feeders, and in mild winters become very regular in their habits. They wing each night just after sunset to some large fallow field or open common to spend the night. At daybreak next morning they return. Sometimes they fly high, but if a stiff breeze blows they invariably keep low. At such times they afford fine practice with the gun, and, judging by the number of empty cartridge cases which often remains to tell how many shots have been fired, it will be noted that the bag is usually far from proportionately filled. Taking a

PLOVER FLIGHTING

season through, if a shooter "halves" his cartridges—i.e. six birds per dozen cartridges—he does remarkably well. I have seen half a dozen shots fired without a bird being bagged; and on another occasion half a dozen birds with the same number of shots. In the long run my average will not be far out, but only in the case of good shots. Golden plover fly exceedingly fast in the dusk, and usually keep low. Green plover prefer to keep higher. The latter often afford very difficult shots, as they toss and "squirt" on wing—a habit they much practise at evening flight-time. At ordinary times the green plover is not a difficult bird to shoot.

The best plover-flighting is generally enjoyed some few fields from the shore, but in many cases they cross river-banks where the shooting is free. Plover flight a few minutes earlier than duck, as a rule, but the last lots of plover have usually not passed before the first duck come in. Plover always flight at dusk, even if the moon rises an hour or so after dark; so, if the wind is suitable, plover-flighting is a certain sport. In this habit they differ from duck, which on or about full moon often wait until it rises before winging inland, leaving the twilight duck-shooter in suspense and wonder as to what they are going to do.

As plover-flighting is not usually a sport enjoyed on the coast proper, it is often a duty of the shooter to gain permission from the inland farmers, or, at all events, those occupiers whose tenements adjoin the shore. Where game preservation is not strictly in force a permit is usually granted by either the landlord or farmer to those persons whom they may consider genuine fowlers and not likely to commit an offence by taking advantage of the privileges granted and shooting the few head of game which the owners and tenants of outlandish grounds so much cherish. One of the greatest difficulties in the matter of granting a permit to a stranger exists in the fact that the applicant may be quite genuine,

while the landlord is not in a position to know this. One means suggests itself—become a member of the Wildfowlers' Association, and hold as such an unblemished character, which, of course, bears proof and, no doubt, a considerable amount of weight when explaining the fairness of proposed and intended movements. Besides, I know many landowners who never fail to grant permits of this kind to all genuine persons, but they will not entertain a poacher. Several of the proprietors I refer to are themselves members of the Association, and thus are anxious to instil a spirit of genuineness and purity into sport. There is room for all. The birds are there in undeniable numbers—more now than ever—and who would stand in the way of a keen sportsman legitimately exercising his energy on what is the common property of all men?

The flight-lines of plover usually differ from those of duck by extending broadwise over at least a mile. The wind has much to do with concentrating the birds to a particular portion of the "belt" of flight, so to speak. Plover cover a given route, and generally pursue it, no matter how the wind blows. Coming with the wind, however, they invariably keep high, but when heading the wind, especially a strong one, they fly low. It pays to observe the directions the birds take and note at the same time the way the wind blows. So much depends on circumstances, according to locality, that beyond the general movements of the birds the gunner perforce must be left to his own resources, always bearing in mind that close observation is one of the great secrets in the art of wildfowling.

WALKING MARSHES

Adjacent to the sea and tidal rivers at various places around our coasts lie excellent marshy haunts of shore-birds and wildfowl. Many of these marshes are free to the public, but it must be noted that several (especially those which extend some considerable distance inland) are private, and in certain instances are preserved. It

SHOOTING ON THE MARSHES

is, however, more particularly of the sport to be obtained on such grounds I intend to speak. Roughly, our marshes may be referred to as of two kinds, viz. tidal and non-tidal. The former may better be termed saltings. They usually comprise grass-lands which have been cut up by the sea into innumerable creeks and runners. In some parts they are called "fitties," "grass-ends," "strays," and so on. The non-tidal marshes are either fresh water or brackish, which is half salt. In the latter case it would imply that at some previous date these marshes were connected with a tidal course from the sea. The general contour of such marshes is grassy, with here and there "fleets" or ponds fringed with reeds and rushes, growing from a soft and boggy bottom. In both places the methods of shooting are identical, the gunner walking up his quarry. The fresh-water marshes usually afford little more than wildfowl and snipe, whereas saltings are tenanted also by shore-birds or waders, but are minus snipe, except on migration and during frosts.

The *modus operandi* is to walk at right angles to the creeks, fleets, etc. In this way the birds are usually sprung well within range. When a breeze is blowing it is generally found better to walk down wind than up. By so doing the birds rise to head the wind, but on perceiving the gunner they sidle off and afford shots easier to negotiate, and certainly give more time to get "on." In short, they afford cross or side shots and fly much steadier. Against the wind they will fly straight away, and, springing at unknown moments, allow the gun a very meagre chance of killing. I think that at most places walking down-wind is also the best way to approach snipe. Of course, duck have a keen sense of smell, but in marshy districts the rushes and walls of the creeks prevent the scent of the rapidly approaching sportsman from perceptibly reaching the fowl. This is, furthermore, against the birds when a strong wind is blowing. I think fowl, when

frequenting rough, marshy ground, trust more to their hearing than any other faculty; thus possibly it is that the gunner is able to get more favourable sport on windy days when the sound of his footsteps is drowned by the rustle of the rushes, etc., than on still days, when faint sounds may be heard far around.

Salt marshes are the favoured haunts of teal and widgeon when these birds are arriving from their northern breeding grounds. Besides these fowl we meet with many kinds of waders, such as redshanks, greenshanks, and curlews, and where the situation is suitable and times favourable, grey geese may take to feeding on short, sweet grass. It will thus be noted that for the sportsman to cope successfully with such a variety of species, differing so much in size, he will necessarily have to equip himself with cartridges filled with large as well as small shot. Using a heavy 12-bore, he will for ordinary purposes find No. 4 shot best for the left barrel and No. 7 for the right. He is then able to kill 'shanks, etc. with the first barrel, and should a duck be sprung at any moment at a distance he may be able to pull it down with the No. 4. At close quarters, say up to 25 yards, No. 7 would be quite effective on a mallard, and ten yards further on a teal. For snipe and small waders Nos. 9 or 10 will have to be used if good results are desired, but it is quite within reason to say that, with a close-shooting gun, snipe may readily be floored with No. 7 shot, provided long shots are avoided. For geese a few No. 2 cartridges will suffice, but, remember, a small-bore like a 12 requires these tough birds to be within 35 yards to kill with any degree of certainty. Perhaps no class of sport involves the readiness to hand of cartridges filled with so many different sizes of shot as does marsh-shooting, and here it is that a point is to carefully observed. Keep each least-used size in a separate pocket, and those mostly used—say Nos. 4 and 7—in the cartridge-bag. This will prevent your firing

COMPARING NOTES

snipe shot at a goose in a moment of excitement—a thing which has often been done. For years I have practised carrying one large-shot cartridge in my waistcoat pocket. Here it can readily be laid hold of without the lengthy operation of searching through the cartridge-bag, and a long shot can be taken or a large bird floored just in the nick of time.

CHAPTER XI

MIGRATION OF SHORE-BIRDS AND WILDFOWL

Some notes relative to the dates on which numbers of our shore-birds and wildfowl visit our shores from their breeding homes and northern haunts will be useful in such a book as this. Several species of shore-birds and wildfowl breed in our islands, but their numbers (even if all stayed the year round) are very small compared with those which reach us from the north. What are known as residential birds, such as the redshank, curlew, green plover, golden plover, dunlin, mallard, and teal, by the end of July begin to flock on the coast, either from our local breeding-grounds or from those abroad. In August most of the curlew and golden plover have left their moorland haunts and resorted to quarters adjacent to the coast. In the same month large numbers of knot, godwit, whimbrel, and mature grey plover arrive; also the less plentiful green sandpiper, common sandpiper, and greenshank are in strong evidence. At this season oyster-catchers, turnstones, sanderlings, and many other species are to be met with flying the coast-line in search of new quarters. In August also the home-bred mallard have flocked, and daily wing to the estuaries and other safe retreats. The beginning of September brings an increase in the numbers of birds on the coast. Great flocks of gulls and terns, leaving their sea-bound breeding homes for more southern climes, may be seen. At this time the curlew-sandpiper, little stint, and other smaller flocks of birds pay us a passing visit. They stay from a week to a fortnight with us, then depart for the south. By the middle of September

the full swing of shore-bird migration is in operation. A noticeable increase in curlews (noted by their different manners and unwary movements) occurs in October. Shore-birds are in this month as numerous as they will be, if no severe weather influences an immigration from the Continent. Thus, in the months of January and February, knots, in very hard winters, congregate in enormous flocks on our coasts.

In August some local migration of wildfowl takes place. We are in this month visited by the first lots of mallard leaving their breeding haunts, as well as other fowl, such as shovelers, teal, tufted duck, and pochards. A few widgeon—probably those which breed in the northern parts of Scotland or at no higher latitude—are often met with in England during August. Of course, a few odd pairs breed in England, but the widgeon seen in August undoubtedly outnumber those which breed in this country.

October brings with it the arrival of large numbers of widgeon and mallard, but the latter species may be said to come in the largest flocks in November. Grey geese reach us in force during October, and increase in number until the end of November. Some pass further south. In February they return, and during this month are most numerous on the tide-ways. Whether large numbers of grey geese (pink-footed) which have journeyed south along the Continent return via the British Isles I cannot say, but it is undoubted that when these birds are congregating to go north they are seen in the largest flocks. Brent, compared with other fowl, reach us late. Few are here before November, and in general they are not looked for in great numbers until after Christmas. The severity of a winter has much to do with the number of brent which reach our shores. Their proper migratory season is over long before the inclement weather drives them in big lots to the British Isles; thus it might be stated that brent, and to an extent all geese, are subject to local migration, which is partly governed

by the weather. Of course, brent occur every year, but for great numbers to visit us we are much dependent on the severity of the winter on the Continent. The severity of our winters counts as little on this score, except that when hard the fowl are not so difficult to procure. Bernacle, although allied to brent, more closely resemble the grey geese in their migratory movements. Being marsh-feeders, bernacle geese frequent very local areas in our islands. The bernacle has frequently been shot in August. At this season they have been met with at places which are not usually visited by them. As this fowl is fairly common as an ornamental waterfowl, it may be possible that these early visitors are "escapes."

In spring a return of the fowl and shore-birds takes place. The majority of the wildfowl leave us first. The shore-birds which have wintered further south, such as the whimbrel and curlew-sandpiper, pass our shores in May. A few linger until the first week in June. All the summer a few straggling shore-birds may be seen on the coast, including godwits, turnstones, grey plover, sanderlings, and knots. These may be immatures which have not gone on to breed, or possibly they are either barren or "pricked" birds.

The fact that birds which nest with us but move south in autumn, while others of the species from the north taking their place, touches the question of migration pure and simple, serving well to illustrate the theory that food and cold do not at present influence the migration of birds, as many suppose. Migration of birds is caused by something more than the immediate necessity and demand for food, although in the ages past this has played an important part in bringing about the habit. We have many mysterious little points touching migration which might be discussed at length to advantage, but to which it is impossible to refer more than briefly, such as the fact that many species after enduring long migratory journeys will starve to death sooner than go further south. I cite the

fieldfare. It may be that the individual fieldfares which in hard winters become victims of the rigours of the weather here, have reached their southern limit of migration, and that their knowledge or power of further progress is also limited. On the other hand, some birds may be said to have exceeded the range of necessary migration by accomplishing enormous and incredible distances. I would here mention the whimbrel, curlew-sandpiper, and little stint. There is no absolute need for these species to journey so far.

For the benefit of those who have not closely studied the migration of birds, I will mention a very generally accepted theory on the subject. This migration of birds is a mystery which may ever remain unsolved, and, beyond stating that it is undoubtedly an evolution of a habit which has with the hand of time become a natural instinct, I leave this point to others. Furthermore, it is thought by those persons who have scientifically studied birds that a common desire or custom to return to where they were bred is more or less evident, should unavoidable circumstances have been instrumental in driving them from their nesting-ground. In all creatures some power instils a longing to return to the land of birth, provided a return is practicable. This is but common natural history. Supposing, as we are led to do, that somewhere near the North Pole was the first home of birds, and that through the ages, with changing meteorological conditions transforming the climatic status, the birds each year have been compelled to seek lands anew, with the advent of a possible chance to return to their old homes they would, with a natural impulse, rush thither. In this manner, in the course of time (how long it would be difficult to estimate), this wonderful migration has been brought about.

In the southern hemisphere bird migration is totally dissimilar to that of the northern, and what little is noticed is said to be entirely of local origin. When speaking of the south-

ward movements of birds we cannot easily leave out the northward; but in making observations on this subject it is practically necessary to compare the spring and autumn migrations, though here it is intended to deal chiefly with those of the autumn months. The latter are for many reasons much more easily and accurately observable than those of the spring. In the autumn there is a larger number of birds on the move, and many are immature, and have, of course, never before braved a lengthy flight. In the spring, however, every northward-journeying bird is one which has proved victor in a long flight, and, moreover, is an individual which has taken care of itself and survived the non-breeding season. Thus it is that with many far-journeying species fewer are observed in the spring than in the autumn. Few mistakes are made by spring migrant birds compared with autumn migrants, as far as the right direction of their course is concerned. Nearly every autumn we have proof of this in the occurrence of some American species crossing the Atlantic ocean to our islands, such, for instance, as the pectoral sandpiper. Although in spring we seldom hear of mistakes made in the line of flight of migrants, yet we are told by a late learned ornithologist that he observed in high northern latitudes geese flying southwards when they should have been going north, and it was his opinion that in their eagerness to reach their breeding homes they had "overshot the mark," and were obliged to turn back, no doubt on account of their homes being frozen up. Many such instances of what might be termed fairly reasonable proof of errors made by migratory birds might be cited, but space will not allow.

All migratory birds are subject to mistakes of some kind or other, which at times prove very disastrous to large numbers of them; but what I wish to impress is that the spring migration of birds seems to take place without such conspicuous error. Likewise, the spring migrants being physically better

fitted in general for a long flight than in the autumn, fewer individuals succumb to storms and exhaustion. Thus we do not hear so often in spring as in autumn of the finding of some species of migratory bird which has fallen exhausted to die. Birds migrate at night as well as day; thus, if a number pass over the observer without giving any call notes at night, nothing can be recorded of them if the night is dark. It often happens that spring migrants arrive at their breeding haunts some time during the night, and the first that is noted of them is that they are seen there by the observer on the following morning. This is particularly the case with our common summer visitor, the corncrake, or landrail. One seldom sees this bird arrive. He is, however, frequently shot on our shores at the time of his departure in the autumn.

The distances traversed by some migratory birds are certainly beyond the conception of man, as far as how the journey is so accurately performed. We have birds visiting our islands on passage to and from the north every year. These creatures journey a distance nearly equal to that from the Equator to the Pole. Birds as a rule perform their spring migration much more quickly and with more punctuality than they do their autumnal. Many very sufficient reasons are advanced in support of this statement. In the case of tardy southward movements the birds may be waiting for the young to attain full growth and flight, etc.; but it must not be supposed that this in all cases holds good, for swallows have been known to leave their young in the nest to perish rather than delay their southward movement. In spring the dates of arrival of familiar migrants can now, after our somewhat lengthy experience and observations, be fixed with fair accuracy, and it is singular to find, despite the weather, that these birds arrive annually within a few days of their time. For seven years, during the first few days of May, I visited a certain grassy common where moor-dotterels halted for a brief period on

their way north. Without fail each year I observed some, though, I am sorry to say, their numbers were smaller each succeeding year, until in 1900 I was only able to record two birds. The most striking feature lay in the fact that, no matter what kind of weather prevailed, they were there within a couple of days of their time. I think this will serve as a fair instance to show how punctual migratory birds are in their rush northwards. I may mention that these dotterel always arrived during the night, and after staying a day—sometimes two—they generally departed in the evening or at night.

What thoughts must arise in the mind of the naturalist who is ever on the look out for spring migrants when he observes a species which he knows is a far north breeding bird staying with us until June, and returning to our islands with young ones in the last few days of July! It is most unaccountable; nevertheless, such is the case with the turnstone and sanderling. It has been observed, however, that a good number of sanderling leave our shores for the north in the early part of May, and perhaps the young we meet with in July are the progeny of these particular birds; but I very much hesitate to state that it is impossible for them to be birds bred even from parents leaving us in June, for migratory birds are most wonderful creatures.

CHAPTER XII

SOME ILLUSTRATIVE EXPERIENCES

WILD GOOSE SHOOTING ON THE YORKSHIRE WOLDS

No kind of shooting is more uncertain than wildfowling. Although wildfowl are very regular in their habits during many months of the year, there is always a doubt as to how much sport they will afford in winter. Of course, to a certain extent, a knowledge of their feeding grounds and daily movements, as well as the ability of the shooter in handling the gun, go a long way towards eliminating the uncertainty of the sport. Despite these indispensable qualifications, a glorious uncertainty still exists, which adds to the charm of a day's shooting. This especially applies to the pursuit of wild geese. The discovery of the actual feeding grounds and the daily movements of the geese are no absolute guarantee of sport. Geese will at times suddenly change from their regular lines of flight and visit new ground. At such times, I believe, the best sport is obtained, so far as inland shooting is concerned. In maritime quarters this is less noticeable.

The wild geese which visit the Yorkshire Wolds in autumn are invariably of the pink-footed species (*Anser brachyrhynchus*). I have handled scores shot in the last twenty years, and, without exception, they have been always of this species. With us their general habits are regular. They feed in the autumn during the day on scattered grain and young clover, to be found on the large barley "walks" of the wolds. In the evening they repair to the upper reaches of the Humber, where they spend the night. Except during fogs or very

strong winds they always fly high. Should a fall of snow occur before the supply of food on the stubbles is exhausted, the geese resort to feed on the grassy islands and foreshores of the upper Humber. Under favourable conditions of weather I have known one shooter with a shoulder gun to bag twenty-three geese in a single night on an island in the Humber.

The main body of geese arrive from their northern homes about the third week in October. In November they are seen in very large flocks. Towards Christmas their numbers seem to decrease according to the weather; after Christmas they begin to increase again. In February they are very numerous, and frequent the Humber day and night. I have seen about two thousand in one flock. By the latter end of April all the geese have gone except the "pricked" birds. The earliest date I have noticed for their arrival is September 22, 1903—four days earlier than any previously observed.

Yorkshire has always been noted for its wild geese. At one time the grey lag bred in the Carrs of Holderness. After the south-eastern parts of Holderness were cultivated (but not enclosed) large flocks of geese came in the autumn and again in the spring. These birds are supposed to have been the Bean goose, and there is reason to believe they were of this species. At the mouth of the Humber Brent geese occur every year, though never in large numbers except in severe winters. The largest flock I have seen there numbered about three hundred. They would not allow our punt to approach them. Of the rare geese, Yorkshire holds a few records, the chief being the red-breasted goose. The white-fronted goose has repeatedly occurred. The snow goose from North America has been noted as seen in the county at least on two occasions.

My experience of grey goose shooting has been varied. Although at certain seasons, under favourable conditions, good sport has been enjoyed with these birds in the Humber,

it has never been my good fortune to make a big bag in this quarter. For years I have tried to locate a stubble on the wolds where a few shots might be got at them in the autumn, but until recently, beyond an odd goose after many days' trouble, I was no more successful. I had full liberty over much of the land in the neighbourhood where the geese usually came, but it seemed unfortunate for me that the birds would select some field over which I had not permission to shoot.

Long after the season had passed I heard of particular stubbles which the geese had regularly frequented. I finally determined to act on information generally regarding past events rather than rely on present daily observations. Thus it was I decided to wait for a recurrent suitable crop in any large field to which I learned the birds had in years past resorted. I found this by far the best plan. To search out their feeding ground without some knowledge of their habits in previous years always proved unsatisfactory. One spot I lately heard about, and later still located, looked a very promising one. About the centre of this field were two large pits, out of which chalk had been drawn to metal the roads. Five years passed before the crop was again barley. During this time I kept a close watch every year. Now was my time to come. All arrangements were made. An ambuscade was erected in one of the chalk pits long before the geese could reach this country; I had even gone so far as to persuade the farmer to delay ploughing up this particular field until after I had visited it. I had two guns, a single Greener 8-bore and a double 10. Both were bored for brass perfect cases. The 8-bore carried a charge of 7 drs. black coarse powder and $2\frac{1}{4}$ oz. of No. 1, and, being choke-bored, made a close pattern at a very long range.

I spent much time during the latter part of October on a bicycle spying out the country for geese, but finding that my

trouble was not likely to be rewarded, I resolved to stick to my likely-looking field, and pay an occasional visit to it. I also had directed one of the keepers to watch the stubble in question, and should geese visit it to let me know immediately. After a few fruitless morning waits in the early part of November I began to think my much-prospected ground was going to prove a failure. At all events I got tired of tramping about and seeing nothing, so I ceased to visit the place, and determined that unless I heard from the keeper I would not go again. On November 18 I received word that a flock of about thirty geese had that day been seen on the stubble.

The next morning at daybreak I was at my stand in waiting. About sunrise I heard the distant gaggling and the clear "honk-honk" of geese coming from the direction of the Humber. The sounds were unmistakable. After a lapse of many seconds I saw the birds coming at a great height. They flew overhead as though not intending to stop anywhere near me. Suddenly they wheeled, and, with such descending evolutions of flight which only geese can perform, they were soon within gunshot of the earth, and returning towards me head to wind. They came splendidly. I allowed them to get well within what I gauged as thirty yards, and then with the 10-bore I smartly killed a right and left. Both lay motionless. There were about a dozen birds in the flock. As the others rose at the 10-bore reports, I snatched up the 8-bore and gave one a departing shot. This did not bring him down at the time, but he only reached the hedge, where he fell dead. I had learned from previous experience never to follow birds when a flight had commenced, so I left my third goose to be gathered later. I had just got ready again when another flock could be heard approaching. The day had become quite light, and I could see the geese approaching when a mile off. This lot numbered about thirty, and were probably the same

flock which had visited the field on the previous day. They came in precisely the same manner as the others, except that they passed me a long shot. I fired with the 8-bore and brought one down broken-winged. Another, hard hit, carried on out of sight. Now I had also learned that if the geese once alighted and no one was there to drive them towards me, they would, on detecting my presence, rise and depart for that day without giving me a chance; thus a long shot was better than none. When a suitable field on the wolds is discovered by wild geese, they generally frequent it greedily at the outset, and thus from the numbers which come up after one lot has been leads one to think the flocks carry the news to each other. To the gunner the circumstances seem strange, since for some apparently unaccountable reason all the flocks will pay the quarter a visit on the same day. No doubt, the habit of following the flight-line of the first flock, as is customary with wild-fowl, explains to some extent the reason for such behaviour. On the day in question this state of affairs certainly occurred, and, although I had not fired a shot at a goose that season until the date of my narrative, I bagged no less than seven of these fine birds before nine a.m. Another was picked up by a farmer friend, who sent it on to me the same evening.

Many mornings after this I visited the same spot. Several geese came, but never, strange to say, in the same numbers as on my lucky day. I did not afterwards secure more than one shot in a morning that season, but before the geese had deserted the ground I had an aggregate score of seventeen geese entered in my diary. In noting my best morning's shot I fully realised the advantage of being on the spot at the time when the geese "take on" to a newly found stubble. They are erratic in their movements at times, but doubtless have good reasons for their movements.

The pink-footed goose, after feeding on the Yorkshire Wolds, is fairly good eating. The young birds are best; they

are, as a rule, lean—due, no doubt, to the long flights they take—but, despite this, when slowly roasted and well basted they are quite a delicacy. After hard weather and living on the tideway, grey geese are not then so good for food.

SHOOTING CURLEWS

The art of calling shore-birds is one only gained by long practice. The usual method is to hide up in the daily flight-lines of the birds. Ambuscades made of drift-ware, grasses, stones, and such like are erected to conceal the gunner from the sight of the passing birds, and as he mimics their cries he thus often attracts them within range. This, however, is only practicable under favourable conditions, such as the flow of spring tides, when the birds are floated off their feeding and resting grounds and compelled to seek drier quarters inland or fly about at sea. The experienced wildfowler is fully aware of these circumstances, and by taking advantage of them often secures good sport. He is also competent in imitating the calls of other shore-birds that will entice them near, such as a low, short "kurr, kurr," the call-note of the curlew. Should he fail in accurately pitching the tones, away go the birds. Curlews are exceedingly wary and alert to detect unfamiliar sounds. Once the long-drawn whistle which indicates alarm to the curlew has been set echoing across the mud-flats every bird is on the alert.

Shooting curlews from a hut or hiding-place is good sport; in fact, holes dug in the mud-flats are usually not so good as a hut, because the tide invariably washes out the shooter from the former just when most birds are coming. To describe a night's curlew flighting from my own experience, let us suppose that there is a fairly high spring tide at 6 p.m., and we are down at the hut about 4.30 p.m. Far out over the flats may be seen long strings and bunches of curlews and other shore-birds winging along as the tide puts them up. They are off to their high-water resting grounds, where, if un-

disturbed, they will remain until the tide begins to ebb. A few smaller lots of curlews, when the water has risen nearer to the hut, just pass out of shot, and so intent are they on reaching their up-river grounds that the "call" fails to attract them. A wavering line on the horizon denotes the distant approach of a flock of shore-birds. They are coming nicely, and the call brings them closer in. A shot, and two birds are down, which prove to be godwits, and the old retriever soon splashes into the water, fetching both at once. Seated quietly, and on the look out in the direction birds are expected, two curlews suddenly appear, well within range, from behind. A sharp turn and a quick shot brings one down ; the other is not fired at. Now, these two curlews had just come from the fields, where they spend the day ; thus their reverse movements are accounted for.

The sun is now nearly dipping the horizon, the sky is clear, and the tide has nearly flowed. Half an hour later and the curlews will be on the return flight. Flock after flock comes into sight, and the shooter has only to deal rightly with them. A low call, and they sail towards him ; a puff of smoke, and a crumpled-up bird, followed by a scattering of the flock and a second bird tumbling back, shows that the shooter is in form as well as in luck. This method may be repeated until darkness sets in and prevents further shooting, when man and dog are fairly tired. It has been a splendid tide for curlews, everything in our favour. Twenty-eight curlews and two godwits is the result of the evening's sport, and, with the exception of one curlew and two godwits, all have been shot after sunset.

To shoot curlews with a punt gun is a more difficult matter, unless the surroundings are very suitable. Personally, I have never had much success in shooting curlews afloat ; indeed, my best shot only resulted in nine gathered. I have known, however, of twenty being shot at one time by a professional, whose

gun fired 8 oz. of shot. He managed to circumvent them in moonlight, which, I believe, is the best time to shoot curlews with a punt. I have been close to very large flocks of curlew in moonlight, but on all occasions the birds were much scattered, the resting ground being extensive. To make a good punt shot at curlews, they should be on a long ridge of cockle shells and sand, crowding together at high water. For my own part, I do not think much of the curlew as an edible bird in winter, so that even when the best punt shots can be made at them I do not trouble about them. Moreover, curlews and ducks are but seldom shot together.

Some years ago I made a few notes on the weights of heavy curlews and the lengths of their bills. The heaviest curlew I secured turned the scale at 2 lb. 9 oz. This bird was an old female, and had a bill 7¼ in. long, measured from the gape. Thinking this an abnormally large one, I referred to it in print, and a few weeks later I was told that the weight of my bird could not be claimed as abnormal, since several curlews of that weight had been shot. Not having by me sufficient data, I did not make reply at the time, but resolved to take further notes. These have since shown that my critic must either have secured exceptionally large curlews or had not weighed his birds accurately. Possibly he may have weighed them when saturated with salt water. I have known a wet curlew turn the scale at 3 lb. When dry it weighed only 2¼ lb. During the last three seasons I have shot with my own shoulder gun during autumn and winter exactly 214 curlews, all in England, and from this number I have collected my notes. On October 3rd, 1906, during one tide, my brother and I secured fifty-six curlews with shoulder guns. The heaviest bird in this lot did not exceed 2 lb. 5 oz. I have observed that the bag has sometimes contained all young curlews, whilst on other occasions all have been old birds. The chief object of my investigations was to determine the average weight of adult

curlews. To do so I took on three different occasions six birds, consisting of three heavy and three light specimens, selected from the bag. The aggregate weight of each lot of six ran : 10¾ lb., 11 lb., and 11¼ lb., so that the average weight of a curlew is less than 2 lb. Many curlews, however, reach 2 lb. 6 oz., but one over this weight is exceptional. Young curlews, just after leaving the moors, average about 1¼ lb. I have seen others in good condition shot on the coast, scale no more than 17 oz. Out of the 214 curlews above mentioned, not one had a bill exceeding 6¼ in., though several reached this length. To arrive at an average I selected six birds—an adult female, 6 in. ; a young male, 4 in. ; a young female, 4½ in. ; an adult male, 5 in. ; a small adult female, 5¾ in. ; a large adult female, 6¾ in. Thus there resulted an average length of 5⅜ in. This autumn I measured the bills of forty curlews shot during September, and found the average to fall 1-16 in. short of that stated above. In concluding these brief remarks on the weights and bill lengths of curlews, I feel safe in stating that a curlew over 2½ lb. is an exceptionally large one, while a bill over 6¾ in. is well above the ordinary length. Curlews shot in autumn are usually palatable if properly roasted. In mid-winter, however, they are not nearly so good ; in fact, they are then often quite fishy and rank.

PART TWO

PUNT SHOOTING

CHAPTER I

PUNT-SHOOTING AS A SPORT

It is a common custom with many writers on sporting subjects to add lustre to their own particular hobby by ridiculing or speaking unjustly of other sports. Far from holding this as being just, we wish it to be known that in no way do we consciously adopt such a course. Nevertheless, we cannot, for the sake of our subject, omit to make mention of a rather startling piece of writing which lately came under our notice. It ran something like as follows: "Punt-gunning is a fascinating sport, and, provided the fowler is one who can stand cold and a little rough work, all he has to do is to put out when the fowl arrive and slay them by the hundred. The shooting is a matter of minor attention, for so large is a punt-gun that all that is necessary when game is found is for the gunner to bang off his weapon into the thickest part of the birds, and then gather up the spoil. If any are alive, these are shot with shoulder guns." Oh, are they? we ask. Now, this is the kind of thing one often meets with.

The same sort of thing occurs in regard to game-shooting, when such statements as the following, annually, about the beginning of October, go the rounds of our halfpenny daily newspapers: "Pheasant-shooting began on Thursday. Birds were healthy and numerous. We always think at this season of these beautiful creatures and the manner in which they are butchered; for the killing of so many half-tame birds by driving them into the very mouths of the guns can surely never be termed better sport than killing so many domestic

fowls in a farmyard with a walking-stick." Who could imagine, in our enlightened age, that such rot could gain publicity? We are inclined to suggest that our worthy author of the paragraph previously cited on punt-gunning should have written more faithfully thus, did he wish to be truthfully correct: "Punt-gunning is a sport I know nothing about. I do know it entails hardships and much skill to kill wild-fowl on open waters with a punt and swivel gun. As for shooting with a punt-gun, I cannot say what it is like, never having fired one; but I must state, from what I have seen, that the shooting seems easy; but, furthermore, this always appears so with good performers." Thus stated, his words would have been more healthy and of better value, as then they would not have led anyone into a misunderstanding.

Some folks imagine they are wildfowlers simply because each year they manage to bag an odd snipe, curlew, teal, mallard, or widgeon. This would not matter if they kept their imagination to themselves; but, unfortunately, they don't. Some even pose to know all and everything about wildfowling. Here, then, it is we are sorry. We do not wish to say there is no other form of wildfowling in which as much sport can be obtained as in punting. This we leave to individual choice. We would like to recall, however, some of the sayings we have heard expounded by shore-shooters who consider punt-shooting to be simple murder, etc. We do not wish to give any impression of egotism. At the same time, we cannot permit to pass unnoticed the thoughts of many shore-gunners concerning punting. Some of them say punt-shooting is slaughter, because a number of fowl are fired at together; yet at the same moment they hold that it is legitimate wildfowling to fire at fowl "bunched" even with a shoulder gun. This, then, can be no argument. Of course, our remarks, it need hardly be said, do not refer to shore-shooters who are practical and worthy of their title—men who can call, stalk, hide, and,

THE FIRST SIGHT OF DUCKS

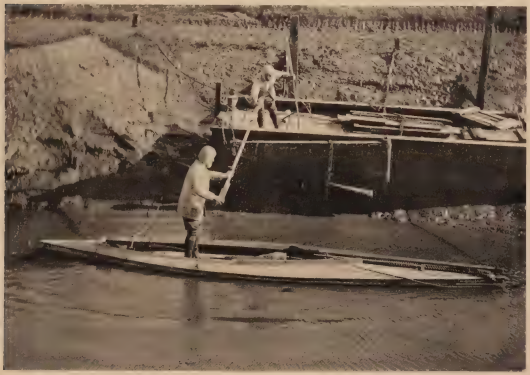
LANDING THE SPOIL

when they do get the chance, shoot their shore-birds in splendid style. These men usually know better, and, although they would have one believe they know nothing further of wildfowling than they profess as shore-gunners, they generally have enough sense not to say anything about matters they have not actually experienced. The class we need recall are, again, those who think they are shore-shooters ; yet, worse luck, they invariably fail to prove what they contend. We make no inclusion here of professional wildfowlers. Sport in its true sense is a non-return game. Thus we cannot hold the poor professional shooter of the coast to be always a sportsman—at least, in our way of thinking. His plan is to get fowl, whether by fair means or foul, for he seeks the birds for remuneration, and not for pleasure. And who can blame him in his cause? He depends on the birds for his livelihood. They are his wages, his very meat and drink. Nevertheless, many of these poor chaps are excellent sportsmen. We should all remember that in true sport duke and peasant are but one.

Shore-shooting is a fine art, but real wildfowling at its best can hardly be experienced along-shore, not because the sport of shore-gunning does not possess as much charm as punting, but mainly because the wildest of wildfowl are not usually shot in numbers on the verge of the mainland proper. The chief haunts of large numbers of brent geese, widgeon, and other wary fowl are the wide, open stretches of shore and estuary which lie at various places around our coast. To shoot them in such places one must be afloat. The largest shoulder guns can do but little service amongst them. Even the odds against a punt and large gun are more often in favour of the birds than otherwise. Far out yonder, on that long bar of ooze, sit the brent—a thousand strong. How are we to shoot them? Not a handful of sea-ware can move within a mile radius without detection by the eyes of these unapproachable birds. The punter has them there to deal with, for the shore-gunner has no

purpose. Nor would we have everyone believe that, because we refer to driven game shooting as a less real sport than wildfowling, we are running down this kind of shooting; neither do we consider it in any way inferior, i.e. viewed from a *general* standpoint. Our main object is to impress or show the importance of the many details or bye-subjects brought into play by the wildfowler in a relative manner to driven game shooting. We leave the sportsman himself to choose which demands most thought and skill to carry out a successful day's sport at either of these classes of shooting. In addition, it might be stated that so varied are the shots taken by the wildfowler with shoulder guns that, provided he is a good marksman, he is one who can hold his own anywhere with the shot-gun, be it in the butts on the moors, the covert-side, or the open stubble. The game-shot pure and simple, however, as a general rule, makes poor work at wildfowl, when introduced to the sport, and in nine cases out of ten cannot hit a "flighting" duck for the very life of him. There may be exceptions in both cases, but we do not insist on them. A gunning sportsman is ever naturally inclined to speak most favourably of his special liking, whichever branch of shooting it may be. Personally, we are fond of all kinds of common shooting carried out on sportsmanlike lines, whether it be at clay or live birds from traps, driven or walked-up game, rabbiting, shore-shooting, wildfowling, or practice with the rifle. Of course, we have our preference; yet, because this is so, we hope no one will think we imagine our preference should bias the general opinion that ours is the finest form of shooting (even if it is) simply because we think so.

HUNTING CRIPPLES IN THE REED BEDS



PREPARING TO GO OUT

CHAPTER II

THE DANGERS OF PUNT-SHOOTING

It is well to look at both sides of any sport, particularly those sports where danger is ever at hand, not only from natural causes, but also from any neglect or inexperience on the part of the sportsman. Of course, it is not the light of the pessimist we seek, but precaution is wisdom, and the old proverb "Forewarned is forearmed," may here well apply. Punt-shooting, undoubtedly, involves more dangers than any other sport with the gun. These spices of possible danger, however, may lend a greater charm to the sport. Although real wild-fowling afloat is ever attended by dangers which, as we have said, are better guarded against than courted, it is not the wise course to seek their acquaintance because their probability or proximity enchants the day. In punting, dangers will present themselves often enough without being sought for. We therefore emphatically advise every one to be careful, steady, and serious about all movements when afloat. With this solemn advice, and the following few hints on the dangers of punting, we trust our readers will glean what will prove of assistance, more so in preventing, than rescuing them from any mishaps. Why we are so desirous of impressing this point is because in punt-gunning many dangers occur suddenly, and so unexpectedly, that one has scarcely time to think until the occurrence is actually over. Then the lesson is taught by the old teacher, and should it cost you its worth, you are sure never to forget it. It is this kind of thing we strive to point out in time so that you may foresee any such disasters.

One can never be over-observant in wildfowling matters. It might seem strange to an ordinary shooter to see a careful puntsman who has not been down to the coast for a few days throw a twig into a running creek, then place a long-booted foot into the water, feel the silt or mud with the fingers at the bottom, pull out his watch, time the twig for twenty yards, then look up at the sky, pull out his pocket aneroid and tap it, and with a sniff, remark, "No good going to-day." All this may seem a mystery to the land-gunner. We will deduce from the foregoing actions to our best. The twig tests the speed of the run of fresh water from inland; his leg feels the weight or pressure and quantity of water running, and even if more or less is to follow; his observations of the sky assist his calculations of the weather; his barometer corroborates or contradicts his prophecy; and his sniff denotes a worthless trip. Worked out, he knows that the run of fresh water will soon be exhausted, and from the hardness of the silt at the bottom of the stream that a lot of water has flowed down. The weather is fine, and the barometer shows steady. The run of the stream would not last long enough to take him to the ebb (which means stranding until the rise of the tide); and, the weather being fine, ducks he would be likely to fall in with before stranding are far out at sea. Thus he saves himself what would be a worthless trip.

It is by such observations also that we wish dangers to be avoided. We must admit, however, that all dangers cannot be foretold; but with some knowledge of their possibility, one is better prepared than if totally ignorant of them. Of course, we cannot enter into, nor do we know, every possible danger which might arise when punting; but by referring to the most general, the others may be guarded against on somewhat similar lines.

First of all, regard the handling of a gunning-punt as a very serious undertaking, at no time to be fooled with. Care-

lessness in wildfowling is to be compared with nothing else than madness. The careless puntsman is always a dangerous being, and one upon whom an eye should be kept; for as sure as guns are made to fire, he will sooner or later run himself (if not others) into some terrible fix. Too much daring is unwise. There is nothing brave in drowning oneself.

It should be almost needless to mention the care one should take with all guns. Every gunner should make it a rule never to point a gun at anything he does not intend to shoot. Be careful where a loaded gun points. Never load "cripple-stoppers" until required to shoot. It is unsafe to keep them loaded aboard a punt. A hammer may be easily caught accidentally and the gun exploded. The charge will blow a hole in the punt, to say nothing of anything else it may hit. There is no great advantage derived from keeping the shoulder guns loaded.

In working a punt along-shore in shallow, rough water (it need not be very rough for a punt), with the big gun mounted, keep her head on to the seas. In deep water the gun must be brought in, or the punt may dive if kept head to the weather. If only a short distance is to be rowed, the gun may remain mounted, and the punt kept side on to the "lipper." A little water will come inboard, but there will be no danger of the punt diving. Of course, side on for a long time would mean swamping the punt.

When sailing a punt at a good speed, never neglect to draw in the punt-gun, for, unless this is done, she may take a "header." It is not really wise to take long trips out on deep water without a following-boat a reasonable distance off in your wake. One can never say for certain how suddenly a squall may come on. Although we are all apt to venture out when the weather is fine—and, personally, we have gone as far as eight miles out and eight back on deep water in

a gunning-punt—it is not a practice to be encouraged. If caught in a squall with a big gun aboard, draw it in and lash it to the ring-bolts fixed fore and aft of the cockpit floor. Should the squall become too bad to hope to stick any longer to the gun, the gun-float (a thing which should always be carried—a copper cylinder, three inches diameter and eight inches long, with thirty yards of strong cord) should be attached to the grapnel, the line from the latter to a trunnion of the gun or some arranged and convenient loop, and the gun quietly slid, breech end first, astern. All this can be seen to by the puntsman while the gunner keeps the punt head to sea. We are speaking of double punts, for no other, as a rule, will venture far on open waters. Although it is hard lines to part with valuable articles, they count as naught compared with human life. The gun, by grappling, can be retrieved with a boat, if you live to tell where it lies.

Never lift a big gun with a punt. Punts are too light for such work. Personally we regret to state that it has twice been our fate to part with the big gun; but on the worst occasion the tide receded below the spot where we so gently, yet timidly, deposited the gun to save our lives. If a punt is swamped on an incoming tidal shore, and you intend to stick to her, first get the big gun out; then she will float better. All oars, hand-guns, seats, poles, etc., must be stowed under the fore-deck. The oars and poles will assist to float her. Unless this is done half your gear will float, and you will lose it. A light mooring line of about six fathoms should always be carried. Attach this to the towing line and tow her in as the tide lifts her. If the ground is muddy and soft stand in the punt and bale the water out of her. She will wash in. A well-made large punt will float full of water. We have seen a punt broken and completely waterlogged float and carry her big gun (150 lb.), but she laboured heavily, and sank and rose several

times. In steering up or down tortuous creeks with steep muddy sides, be careful to go with the current and keep head on. If the run of water is strong, and you get athwart the stream, the punt will instantly dip under sideways, fill with water, and throw you out. If the current is very strong you will do well to save your life, and lucky indeed if you save the punt also. A mishap of this kind is such an unexpected kind of a disaster that it takes one instantly, and generally before the calamity can be realised. Be careful to guard against it.

An idea of how such an occurrence can take place may be experimentally gained by cutting a piece of cardboard the shape of a gunning-punt's bottom. Hold it at each end with the finger and thumb and blow at it. You will instantly see that very little wind turns it flat to the pressure. This is exactly what the punt does when in the stream and similarly fixed. Practised fowlers well know this, and work strong-running creeks very cautiously and carefully. Go with the stream and steer by opposing, not helping, the way of the craft. Do not hurry. There should never be any need to do so.

When fowling new grounds, take a local hand with you. Failing this, engage someone with a small open boat to follow you. It is wisdom in the long run when punting from shore. If you are quartered afloat, then instruct a watch to be kept aboard your living craft.

In going to fetch a stranded punt be wise and take a good seaworthy boat. Punts are useless for rescue work.

We have not made reference to the danger of being caught in a fog out on open waters. Nothing in a case of this kind can be done except to exercise the most expedient methods to get free of the situation by making for the nearest land. A small pocket compass is at such a time of invaluable service. Where shipping occurs it is dangerous during foggy weather to be afloat in so tiny a craft as a gunning-punt. Punters who

follow the game for sport do not, as a rule, set out for a shot in a fog, unless circumstances are different to the ordinary run of things. Amongst amateur wildfowlers it is not considered sport to go punting in a fog.

We now refer to the most dangerous position a float shooter can be placed in. This is to be afloat amongst crunching floes of ice at the tide mark. If there is an accumulation of ice of any size, and he get well amongst it on a rising tide, then heaven help him, for his punt is sure to suffer if he alone escapes. Such a predicament is not one that even the most inexperienced punter often gets into, yet such has been known. To hear ice-packs during a hard winter crackle and thunder as they press on before the incoming tide on the flats of a mighty estuary is a sound never to be forgotten. We have seen ice packed up at high-water mark in British estuaries three to five feet high, and, with the force of a spring tide behind it, shear clean off a thorn fence at the roots. The thorn fence had been put down as a protection for a sea-wall.

To take life-belts and such-like in a gunning-punt may be a wise precaution, but such articles are much in the way, for there is little enough room to start with. Why not charter a lifeboat and feel safe? There is nothing to beat carrying a matter to extremes.

LAUNCHING THE PUNT

CHAPTER III

SOME GENERAL NOTES

Above all, the smaller details of gunning-punt management are of incomparable value and assistance to the wildfowler. Things apparently of no great importance must still be known. What we would endeavour to instil is the importance of being equally acquainted with the minor matters of the subject, as with those of greater importance. Although small matters do not generally stop progress altogether, they often cause much inconvenience and loss of time.

In the general working, the mooring, and the hauling and launching of the punt, every care should be exercised, so that the work is done expediently and well, without injury to, or undue wear upon, the boat. No part in the working of a punt causes greater wear than launching and hauling. She then often has to stand uneven and undue strains. Care should be taken to avoid pulling on the side decks. A careful eye should be kept upon voluntary assistants, and instructions given them how and where to "lay hold" for a pull or shove at the punt. Large double punts are not light articles, and with their flat bottoms often suck the mud very tightly. Always contrive to move a punt forwards and backwards; sideways as little as possible. The proper places to "lay hold" of a punt for hauling by hand are under the stern, the main deck rafter aft, at the stern of the cockpit, under the gun beam, and the rowing spurs. The cockpit coaming and side decks should never be pulled at. When hauling with blocks, fasten to the shackle, which should be fixed for towing purposes in the stern chock.

Never haul with the breeching-ropes, not because they would not serve well for the job, but because they are for taking the recoil of the big gun; and let this be their only and proper purpose. If the practice of using the breeching to haul the punt with becomes general, the day is almost sure to arrive when the gun is loosely laid to her ropes, and on firing she will unduly fly back and, possibly, give you a nasty knock. We have known an instance of this kind actually occur; the unfortunate party still carries a loose tooth in his head to remind him of it to this day.

In mooring a punt, much depends upon the position to be taken up with regard to how the work should be done. Places and quarters vary. If the punt can be easily dragged ashore, it is always well to do so, in preference to mooring her. If the punt has to be moored in a channel with a run up and a run down in it, the best plan is to fasten a rope fairly slack across the channel. Attach a rope to the centre, and to the other end moor the nose of the punt. To the towing shackle aft of the punt, hook on the grapnel line, and cast the grapnel down-stream. On the run down or ebb the punt will ride to the cross rope. On the run up or flow the punt will ride to her little anchor. In both cases she can rise and fall with the tide and keep in the centre of the stream.

When the weather is windy, the working of a punt even in shallows is very unsatisfactory, and, unless the birds are weather-beaten and tired, it is well-nigh impossible to attain success. Besides, it is always unpleasant to punt-shoot in a wind. The only places on tidal grounds where punting can be done during high winds are the deep and sheltered creeks at low tide. Most fowlers find it better to wait for a lull before setting afloat. During the time of waiting for real fowling weather, the gunners can often find sport with shoulder guns ashore. When it is too rough to set the punt afloat, there is always the chance of a shot at ducks flying the coast-line, or

a few shots at the wader birds on the rise of the tide. If the weather is open, plover and duck flighting are usually to be had in the vicinity of a punting-ground. A few snipe may also be met with in some near-by marsh or bog. These snatches of sport with the gun are very often very enjoyable, and offer a relief to the monotony of a dreary wait for favourable weather.

For such sport, however, which is shore-shooting pure and simple, the services of a good dog would be found invaluable. Although a well-trained retriever might be of great assistance after a shot with the punt-gun, room in the punt is so limited that to stow him would cause a great deal of inconvenience. A spaniel could be got under the side deck of a large punt, though really his presence would be little short of a nuisance, because, after a swim or run ashore, his wet and muddy hair would make the other occupants of the punt as uncomfortable as himself. Few dogs can be trained to be both of service and to lie sufficiently quiet to cause no bother when setting or sculling to wary birds. As a rule, dogs cannot withstand the excitement of a long and patient stalk in a punt, and usually spoil the shot just at the critical moment. Speaking generally, they are of no direct practical service to punters.

To hang fowl, couple them by the neck and sling them over a pole or line. In warm weather (not the punting season) hang fowl tied by a leg. We believe they will then keep longer. If hung by the neck in warm weather, the vent of a fowl soon decomposes, and permits the entrails to drop out. Where there are rats or mice, a hanger with several hooks, one above the other, should be used, or these vermin will destroy the birds. The hanger should be attached to a rafter or the ceiling with a wire (not cord), and a tin disc slid halfway down on to the wire to prevent rats or mice running down and reaching the fowl. Rats or mice cannot pass the tin disc (ten inches diameter) without being thrown off.

We must refer here to the close time for wildfowl. Wild birds (including wildfowl) are protected by Acts of Parliament (1880 and 1881) in the British Isles, from the first day of March to July 31 in each year, both days inclusive. The island of St. Kilda is exempt as far as the taking of seafowl by the natives is concerned. County Councils have the power to make Orders regarding the time certain wild birds may be protected, and prohibiting Sunday shooting upon areas within their jurisdiction. These Orders, if sanctioned by the Home Secretary, become law. Owners and occupiers of land, or persons duly and properly authorised by them, may kill certain birds (unscheduled birds) during the close season. The birds they cannot legally kill are scheduled, and include practically all the birds called wildfowl. Since none other than owners and occupiers of land, and those duly authorised by them, are allowed to shoot the unscheduled birds on their own land only, it is illegal for them or other persons to kill any wild birds during the close season on the tidal parts of foreshores. As the dates commencing and closing the period of the year during which wild birds are protected vary in some districts according to Orders made by local governing bodies, it is wise to ascertain the correct dates before visiting a wildfowl shooting quarter. The Clerk to the Council of the county can generally supply the information required. According to Acts of Parliament, it is not illegal to kill ordinary wildfowl on Sundays; but Orders are in force in some areas prohibiting Sunday shooting. Game birds, of course, cannot legally be shot on Sundays. Although the Wild Birds Protection Act has done much for the birds, the closing of the shooting season on March 1 prevents wildfowlers from getting a full chance at the birds. True wildfowl, such as brent, widgeon, etc., do not breed here; yet they are often more numerous with us during March than in any other month of the year. No harm would be done by extending the season to the end

of March ; but, for the sake of the few wild ducks which breed with us, the fowlers have to sacrifice being allowed to shoot during the time foreign visiting fowl are here in thousands —probably their strongest numbers. In Lincolnshire the shooting season for wildfowl used to expire on March 15. A further appeal about a year ago by local fowlers to extend the season failed to meet with success. Although we quite agree that mallards should be protected from March 1 (now that so many half-wild ducks exist throughout the country, and breed earlier than the true wild ones), it would be well for wildfowl shooters generally if the non-breeding fowl with us, such as brent, grey geese, and widgeon, were unprotected until April 1. As far as brent and widgeon are concerned, it would not make any difference to them if they were not protected in the British Isles at all, for they do not breed here. We refer to the large numbers. An odd pair of widgeon breeding in the British Isles is no argument that they are a general breeding species with us. If these fowl (brent and widgeon) were not persecuted in their breeding haunts, our protection might go to somewhat benefit their welfare. But this cannot be said. Therefore, a reasonable argument can be held that the attempt to protect brent and widgeon while they are breeding (which is the sole object of the Acts) results in failure.

A passing remark might be made regarding food when out punting. To be stranded for several hours without a drink or a meal in cold weather is very trying and hurtful to the system. We do not wish to enumerate a menu for the wildfowler when afloat, but we trust he will heed our final hint that a stimulant in the way of spirit should always be carried, more for cases of emergency than general use, and a fair allowance of nutritious food—enough to sustain him for at least a dozen hours. What is not eaten can always be easily brought back ; then, if unforeseen circumstances

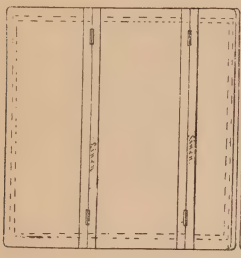
prevent or delay your return, you are prepared. Do not neglect to use a thermos flask. No smoking when wildfowling is an order often heard propounded. As long as one does not allow smoking to interfere with or lose chances of sport, we are of opinion it little matters to the fowl.

A thing to be noted when afloat off a large expanse of tidal shore is the change which sometimes occurs in the atmosphere. On days with a slight haze hanging round, and when the wind suddenly puffs up, and as suddenly dies down to an absolute calm, atmospheric changes are, probably, the most readily discerned. Fix your eye on an object about half a mile away. One hour it will appear to be a hundred yards off; another hour a couple of miles. These are conditions to be remembered, for, unnoticed, they are very deceiving, and may lead you astray. Another atmospheric illusion is a mirage. At such times far-off objects appear high, as if above the horizon, and nearer objects are almost invisible until quite close. During such times good shots at fowl are often secured. A mirage, as it is locally called, is said to be a sure sign of rough weather, or in other words, the calm before the storm.

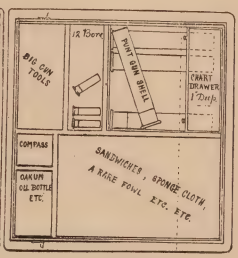
CHAPTER IV

GUNNING-PUNT ACCESSORIES

We figure a punter's magazine. This is an indispensable article in the modern punter's outfit. Many designs of punters'

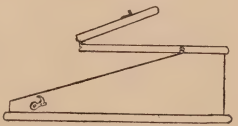


Plan



Plan—Lid Removed

Side—Lid Closed
Punters' Magazine



Side—Lid Half Opened

magazines are to be seen at various places around our coast where punting is annually practised. Before going on to

describe the magazine here figured, it would be well to impress the many important items which constitute a handy article of this kind, as well as to refer to the necessity of having the work in it of a suitable standard to guarantee its efficiency in withstanding the rough-and-ready wear which these things are subjected to.

In the first place, all things appertaining to punting should be as simple as possible. Nothing in the punter's kit requires more attention in this direction than his magazine. The simpler it works, the better. It cannot be too well made; in fact, a water-tight box is really what is wanted. The construction should be such that at a glance the fowler has all within his magazine in view at once; it can be quickly opened or shut, easy of manipulation, low and flat in shape (then it may serve as a chest-rest or a seat), and as water-tight as possible. Here we have the chief points of a good punter's magazine. The main things to avoid in a magazine for punt-shooting are height, fitting sliding lids, and, above all, a cover or lid to each compartment. This latter is a very bad idea, except, perhaps, for use by persons who are constantly fowling. Gunners who are not regularly punting are apt, and especially in moments of excitement, to forget at the critical juncture which compartment of his magazine contains the object immediately required. Sliding lids, unless well attended to, are almost certain to stick, through the action of the surrounding damp atmosphere which is ever attending a gunning-punt.

In our sketch we give a magazine which has served remarkably well its many purposes during our exploits afloat in pursuit of wildfowl. The design is original on our part. Although we have tried several other kinds, including magazines said to be inventions by good authorities on the subject, yet there is none we like better in actual practice than the one here depicted. Its general construction is very simple, though,

as I have previously hinted, the workmanship needs to be of the best. Oak or teak is very suitable wood to make the magazine of. Our sketch is to scale. For convenience of describing this article, we will make reference to a few sizes. The bottom and top may be made of $\frac{3}{4}$ in. wood, sides $\frac{5}{8}$ in., partitions $\frac{1}{2}$ in. As will be seen by reference to the drawing, the lid is hinged in two places. This materially assists opening, and, moreover, prevents "high fly" of the lid if the punter wishes to change a punt-gun cartridge on sight of fowl. The hinges may be let in or fixed flat on the outside. We advise letting them in. The hinged joints of the lid are tongued and grooved, and covered outside with linen, which is painted over along with the box. Around the top edge of the sides, where the lid fits down, rubber is laid in a groove, so that when the lid is pressed down and secured with the hook fasteners, a water-tight joint is made. We do not advise lining out the partitions with any kind of metal. Owing to the dampness of the atmosphere, metal in an almost air-tight box is liable to sweat, or act like a condenser, and thus create moisture. Where the cartridges are kept, a lining of thin rubber, not so much as a waterproofing but as a cushion to eliminate jarring of the cartridges, is useful. Every punter may prefer his own ideas being carried out regarding the divisions in the magazine. On the sketch we have marked divisions which have gradually evolved into personal custom, though individually this is merely a matter of taste. The punter, as he becomes a practitioner, slowly, perhaps, though surely, finds a place for everything, and observantly learns that in punting everything must of necessity be in its place, if success is to attend his endeavours. The magazine here referred to is for a large double punt. For a single-handed punt and other smaller gunning craft the magazine may be proportionately less, as may be found most suitable. A good joiner or cabinet-maker should be employed in the making of

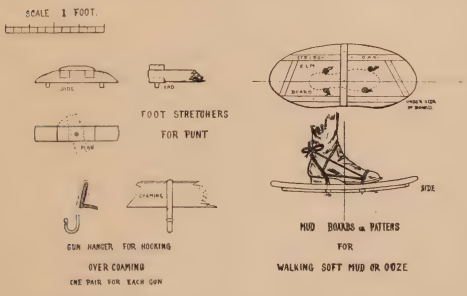
the punter's magazine. Paint the magazine inside and out with red-lead paint—three coats.

We might have detailed a sketch of a small box made to fit snugly under the after deck and in the stern of a gunning-punt. In this part of the boat a small box is out of the way and occupies space that otherwise could not be utilised. Such a box serves the purposes of an after locker. In it may be stowed rowing crutches, gun hangers, baling pot, etc., when not in use. It need not have the care bestowed on its construction that is necessary with the cartridge magazine. A leather strap should be attached to this to facilitate drawing it out from under the deck.

Seats in the gunning-punt are, no doubt, necessary articles, if comfort is desired. We might add, however, that fowling craft are not things wherein to expect fireside comforts. The reverse of comfort is generally the case. Many ways and means of rigging up seats in punts might be illustrated; but, as the whole matter includes so many contrary methods employed by different fowlers, a mere reference must suffice. One of the simplest plans is to rig a board across the punt so that the ends rest on blocks fixed to the inside of the boat's side planks in such a manner that it can be shipped or unshipped. Personally, we use 1-inch boards of elm, about 16 in. by 9 in., mounted on oak strips 1 in. thick, making the seat, so far, 2 in. high. On these boards we place oilskin cushions about 3 in. thick. The cushions are stuffed with oakum. The seat, when complete, is about $4\frac{1}{2}$ in. high. The cushions serve to rest elbows on when laid low in the punt, setting or sculling to fowl. There is also a folding seat for a punt. This is of a well-known type. It is plain and simple. Unlike others of its kind, it has no detached parts. Articles consisting of separable pieces are likely to get asunder or misplaced in the punt, and cause much inconvenience when required.

It must be remembered that the seat should be strongly made. Yellow pine will serve well. The legs may be better and stronger if made of oak. The hinges should, of course, be brass. Like all other things inboard the punt, paint seats with red lead. Turning seats are not suitable articles for true gunning-punts. They are found chiefly in light boats used for duck-shooting with shoulder guns.

Foot-stretchers are useful to assist the rowing of a punt.



We figure a simple form, consisting of bar and end pieces. Into the end pieces are dowelled two round oak pegs, $\frac{3}{4}$ in. diameter. These pegs fit through holes in the ceiling boards, and thus mount the stretcher. By pushing with the feet against the bar in a downward direction, a better purchase on the water may be secured by the oars. If a punt is built strongly and will stand it, a simple form of foot-bar can be arranged by fitting a bar from side to side in a similar manner to the seat previously mentioned. The foot-bar and end pieces answer well in oak. Greenheart (Bebeera) is an improvement as a wood of which to make the foot-bar.

We figure a gun-hanger. A pair of these are necessary for each gun. They will last a lifetime if made of yellow brass or copper. If of forged iron, they should be well galvanised and then painted. As these hangers are adjustable they supersede fixed hooks. These latter are not at all advisable.

Mud-boards cannot be omitted from the list of punters' tools. Although dangerous things to the inexperienced, they are ever useful for assisting the fowler to gather fowl on ooze where he scarcely dare venture to step without them. It must not be supposed, however, that the punter is able to walk on all soft places, simply because he has boards. Some mud is too soft for him, especially that known at many parts of our islands, and called locally "new warp" or "blather." Rotten ooze and soft clay whereon grows "zos"[1] (the wrack-grass or widgeon-weed) can generally be easily walked with boards. We quite believe, however, it would be found that one could walk on these places without boards, though, no doubt, with greater exertion and bodily risk. The only advice relative to the art of walking on mud with mud-boards is, keep the feet well apart. The more one flounders along, the better. After the knack of "floundering" along has been acquired, nothing more is needed. To attempt a graceful pose in mud-shoes is never advisable, and, no matter how one proceeds, be glad you can get along, for it is when you stick that graceful poses occur! In the case of a stick, we advise to lie flat, if possible, and crawl out. Failing this, assistance is of absolute necessity, or results will most surely be fatal. Prevention is better than cure. Keep off treacherous spots and regard them as "holy terrors." Duck are of no value compared with a human life.

Mud-pattens are made square, oblong, and oval, according to the ideas of the punter; yet they are all for the one and same purpose. Our sketch shows what is said to be an im-

[1] *Zostera marina.*

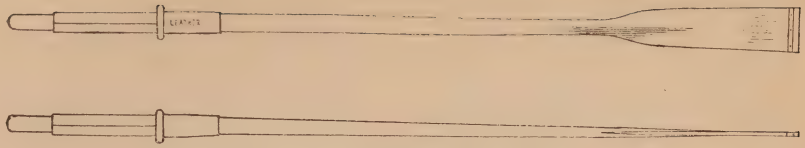
proved shape. We have used this pattern of mud-board and found it answer well. The board should be made of elm (steamed and fastened to get the sweep), with strips of oak $\frac{5}{8}$ in. by $\frac{7}{8}$ in. screwed on, as per sketch. These strips are to prevent slipping or sliding over the ooze. The board may be fastened on to the foot either with leather straps or rope. We have found rope serve these purposes just as well as leather, and might say there is little difference practically, as one, if well arranged, is as good as the other. Leather straps are fixed to the mud-boards with copper rivets. Two straps complete the arrangement for each board. The fore-strap is fitted so as to admit the toe. The after one consists of two pieces of leather rising vertically and riveted or sewn on to a strap which is to pass round the ankle. When leather boots are worn, and leather straps are passed under the soles of the boots and around the ankles to prevent them loosely moving on the feet when walking, these straps have to be removed before mud-boards with leather fastenings can be put on, whereas with rope this is not always necessary. A word here about long boots. As these are invariably hard to get on and off (particularly off), if a fit for the feet when on, it is highly advisable to have them two sizes larger than your feet and pack up with wool, using an ankle-strap, above mentioned, to prevent movement. Our remarks refer to leather boots.

Besides the accessories for gunning-punts already noted, a few very useful ordinary things might be drawn attention to. A baling pot, which should be of thin copper, is indispensable. A small bucket, with a couple of fathoms of $1\frac{1}{4}$ in. rope spliced to the handle, is an ever-handy tool at the punt-house or beaching quarters of a punt. Equally so is a small mop. This latter is most needed to wash off accumulated mud on the punt's decks, and may be found of use for several other purposes, such as a swill-down, etc. It would be well here to remember that a plug fitted in the bottom of a punt, although

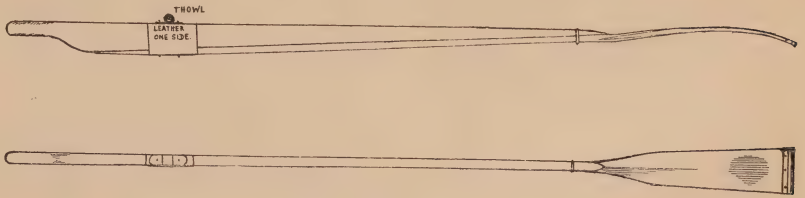
not absolutely necessary, is nevertheless of use, especially when washing the inside of a punt, if nothing else. There is one thing certain—it can never be said that a well-arranged plug is ever in the way. The plug should be made of brass, with a low, flat, round head, milled on the edge, to give the fingers a better grip to screw it in or out of the nipple fitted in the punt's floor. A thin leather washer makes the joint. Attach the plug to the punt with a short piece of brass chain, then the plug will not get astray. All punts should be furnished with a couple of long 1½ in. rope falls, fifteen fathoms each, and two short ones five fathoms each. These are needed to moor the punt or haul her up with, and assist in taking "fleets" with the rope-blocks.

Other almost indispensable tools, such as a couple of hand-hammers (one light), a couple of prickers, a gimlet, chisel, brace, and a few boring bits, rivet set, a small mallet, and a punching-block for big-gun wads, etc., may be added. But these are very ordinary, and, we think, should therefore simply need naming to be included in the wise punter's outfit. They often prevent lengthy repair delays. A few duplicates of punt gear are usually stored. A spare oar, setting-pole, paddle, rowing-crutch, etc., are the chief things to have handy for cases of emergency. A few brass screws, various lengths, and copper rivets with washers should always be kept ready for use in repairing the punt. Remember, in punting as with other things, the old proverb, "A stitch in time saves nine." Punters are continually handling slimy, wet, and muddy articles, and, without a sponge-cloth to wipe the fingers, the unpleasantness of these circumstances will be most thoroughly realised. It is easy for the expert to make a mental picture of the general arrangement of things aboard a double-handed punt.

The gun is ten feet long over all, and is a two-inch bore B.L. She is mounted in an elevating crutch. Stout breeching



Oars for use in general type Gunning-Punt. Length 8 ft.



Oars for use with Sea Punt. Length 8 ft.

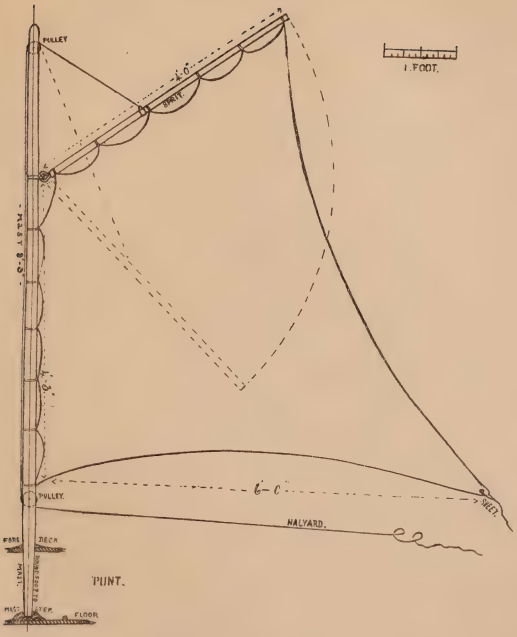
rope (five-inch) passes through a hole in the punt's stem, and is fastened to trunnions on the gun. The gun has a plug in its muzzle. Under the gun and over the ropes may be noted the movable gun-rest. Immediately below the gun-breech is the punter's magazine as in the sketch previously figured. To the left, under the fore-deck, is stowed mast and sail, setting-pole, boat-hook, and leather breech-cap. This latter, when in use, covers the gun-breech and keeps spray from the action. Fixed to the gun-beam is the mast-ring (step in punt-floor), to the left of the gun-crutch. Under the gun may be seen the back recoil check-rope, which is fastened to a ring in the punt-floor. Another of these ring-bolts is fitted aft of the cockpit. Just in front of the gunner's cripple-stopper is the pulley carrying the elevating rope. The cripple-stoppers, which should be single guns, are suspended in their hangers from the cockpit coaming. On the left side of the cockpit is lying a small four-prong punter's grapnel, with line and snap-hook. To the right is a pair of wood mud-pattens. The small flat-boards are the punters' seats. On the starboard side aft, the coaming is removed. Oars are out in their crutches, which latter are screwed into sockets on the side-decks. A scull is resting in the sculling or setting spur. On the same side, a little further forward, is the sailing-spur or crutch. To the stern chock is fixed the towing tackle.

In our sketch herewith we figure simple sail for single-handed punt. Although the drawing is to scale, sizes are appended, so that error may not easily occur. The measurements are for a sail to suit a full-size single-handed punt of about eighteen feet in length. For smaller craft the sail should be less accordingly. This sail, and modifications of it, is of fairly general use with single-handed punters. The mast foot and step should be round, to allow the sail a free movement. The halyard is rove over two pulleys in the mast, the fall end extending aft of the cockpit, where in the hand of the

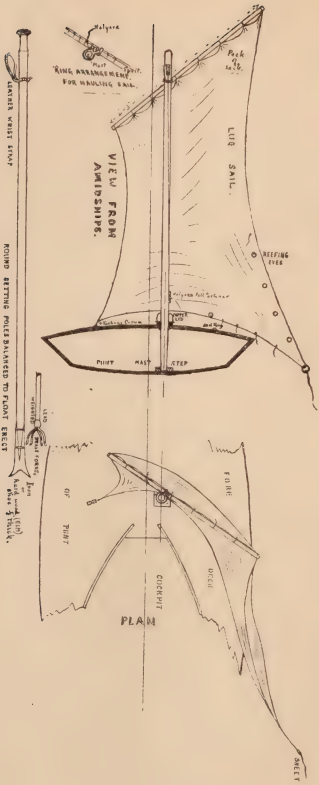
STOPPING A CRIPPLE

DOUBLE PUNT

SHOWING ARRANGEMENT OF ARTICLES INBOARD



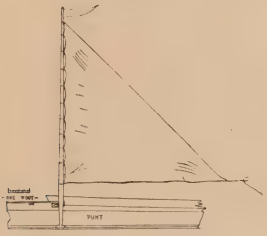
Simple Sail for Single-handed Punt



Lug Sail for Double Punt

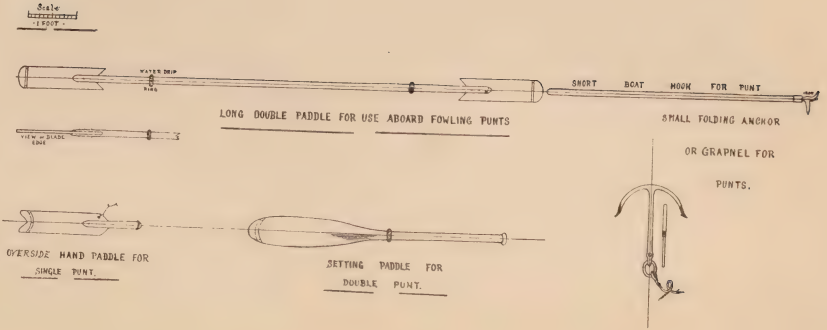
punter the sail may be hoisted or lowered *ad libitum*. The mast may be made of ash, then it can be thin and light. If made of soft wood, it should not be less than two inches in diameter. Any kind of wood can be employed to form the sprit, though if of soft wood it must not be less than one inch thick. All fittings, such as the swivel, pulleys, etc., should be made of brass or gun-metal.

We wish to mention several additional accessories to gunning craft. We say advisedly "additional," with the



Leg-o'-mutton Sail for Gunning-Punt

meaning that many of the articles are not absolute necessities in the way of a punting outfit; yet, nevertheless, they may be employed in preference or as a supplement to other gear, and, under suitable circumstances, be found of valuable service. We figure a long paddle. This article is a fine tool in a punt. With it a man is able to propel a gunning-punt at a good speed. Such a paddle is invaluable for assisting the rower in a double punt, when an occasion arises for a smart retreat from a "lumpy" quarter, or when encountering opposing wind or tide. Although a long paddle may be found of service, it must be said that they are rather unwieldy things to stow in a punt, owing to their great length. Some punters (double-



LONG DOUBLE PADDLE FOR USE ABOARD FOWLING PUNTS

SMALL FOLDING ANCHOR OR GRAPNEL FOR PUNTS.

OVERSIDE HAND PADDLE FOR SINGLE PUNT.

SETTING PADDLE FOR DOUBLE PUNT.

handed) use two long paddles and no oars. In a single punt a long paddle may be used for cruising, and oars dispensed with—except one for sculling—though with the large double punt we strongly advise the shipping of a pair of oars and the introduction of a long paddle, more as an auxiliary tool than anything else. For the large double punts a long paddle should not be shorter than eleven feet over all. A long paddle for a single punt may be between nine and ten feet, according to the beam of the craft. The hand part, or shank, is best made of ash. The blades can be made out of $\frac{5}{8}$ in. yellow pine. Rubber rings or a plaiting of tarry twine on the shank prevents, to an extent, water running down the paddle and wetting the paddler. The blade ends should be fenced with thin brass strips, through-riveted, not tacked on, to prevent wear and splitting of the wood.

The overside hand-paddle is entirely for use in side-paddling and other light fowling craft. A pair of them is required to paddle the boat. The punter lies on his chest and uses a paddle in each hand over the sides of his craft. The construction of such an article may be readily understood by reference to the sketch. The paddles are secured with pieces of cord to the punt, so that the punter may, on nearing fowl, leave hold of them to take the shot.

A long spoon or setting paddle is a useful tool in a double punt, especially if the puntsman is not an adept at using a scull or a setting-pole. It is these two last-named articles that the spoon paddle is intended to supersede. With this paddle the punt is worked up to fowl, by the puntsman lying on his back aft of the cockpit. If a right-handed man is working the punt, the movement with the paddle is made over the left side astern (coaming removed), and is a pull with the left hand and a push with the right for a forward motion, and a right-hand swing of the punt's bow and vice versa for a reverse swing. This paddle should be made of ash, so as to

stand a heavy strain. Its length may be between five and six feet, according to the size of punt it is to be used aboard.

One of the most handy articles in punting is a small boat-hook. It may be employed for many things besides that indispensable purpose it serves of holding the punt up to shore, etc. Along under the bank of a deep creek, where sculling is impracticable, and the setting-pole too long and clumsy to manipulate, a stiff, short boat-hook will be found a useful article with which to push the punt. The construction of a boat-hook is simple. A wrought-iron end, with two prongs at right angles to each other, fixed in the iron ferrule-shod end of a round ash pole, about $1\frac{1}{4}$ inches in diameter, and about six feet in length, completes the boat-hook.

We figure a folding grapnel. This lies snugly in a punt, and perhaps that is all which can be said in its favour. To undertake to undo a folding anchor covered with mud is never pleasant. We prefer a small ordinary three- or four-prong grapnel, which is the essence of simplicity, and is all that is required, besides stowing away in the punt easily enough. Our chief reason for mentioning this tool is due to the fact that many of its kind are used by punt-shooters. Anchors, like rudders, are almost endless of design. We dread to mention some of the curious grapnels we have seen used in punts. Loose-head lever cranks to mushroom heads and drag rods might all be included in the anchor category of the inventive punter's grapnel. The folding anchor here depicted may be forged and fitted for the wildfowler by any country blacksmith whose tools extend to a common set of stocks and dies.

One is ever anxious to reduce manual labour to a minimum. In doing so we seek the assistance of mechanical devices and ingenious tools to assist us. This is particularly true in regard to punting, as the latter sport involves a good deal of hard work, if the shooter is one who intends to take the bull by the horns and pit his strength against the task from the very start

to the finish. In this, however, he is always ready and glad to find a means of rendering a hard job an easy one. This, of course, he can only do by the assistance of tools.

To pull a punt up a steep drain or creek-side by hand is very laborious, whereas with the assistance of a pair of purchase blocks and a rope fall it is an easy task indeed. A pair of small iron blocks—one a three-sheave and the other a two—rove with a rope about 1½ inches in circumference, are about right for hauling a large double punt, and capable of lifting about half a ton. In addition to the blocks, a couple of spare falls, two-inch rope ten fathoms long, and a couple of strops made of the same size rope, will be found of assistance. The strops should be about four feet long when spliced and ready for use.

When the punt is in an awkward position, and to be hauled over rough and stony ground, an oak roller (three inches diameter, four feet long) will assist her to move and save rubbing the paint off the bottom. This roller—or better if two be installed—can be mounted on two small brackets with pin-bearings at each end, the brackets fixed to an inch by six-inch board. Mounted in this way the rollers will last for an indefinite length of time, and work much better into the bargain.

A useful tool for levering up a punt to put a roller under, is a handspike. It should be about seven feet long, three inches round 5 ft. 6 in. of the way, and tapering a little towards the end, and three inches square the rest of its length. Hickory or ash would be suitable for this handspike.

Every wildfowler afloat will find a use for a small pocket compass. It must not be imagined that the punter will need to use this for navigating his craft—far from it; but the purposes it can be employed to serve are many. Out on an extensive foreshore, with a haze hanging around, the mainland is not always visible, and to tell what part the wind is coming from cannot be done without a compass, unless one is

familiar with some post or stones near by. In addition to the purpose mentioned a compass is of great value in a fog. It need scarcely be mentioned that a pocket barometer should be a *sine qua non* with the wildfowler. We have used an aneroid and found it of capital service and assistance in calculating changes of atmospheric conditions.

A wildfowler's flashlight is a thing not often used. From a candle in a polished bucket to a powerful acetylene lamp we might trace the evolution of this article. Time was when a flight-shooter sat in the dark by the side of a pond where ducks came, and as soon as he heard a duck splash in he flashed on his feeble candle-light, in the hope of gaining a glimpse of the half-bewildered duck. On very dark nights, by the aid of a powerful light, some good shots have been made with heavy shoulder guns, but we cannot state that any success has been attained with punt and gun under such conditions. The lamp should be of power equal to a motor-car headlight. It should have a long cone (about fifteen inches) to converge the rays from the light in front of the lamp, and arranged so that no stray light can be emitted from the body of the lamp, and must be capable, by means of a shutter, of being instantly flashed on or off. The effect on birds is wonderful. They sit for a moment in bewilderment. We have yet to learn whether this way of shooting birds can be classed as sport. Wildfowl and waders can be located by their calls on dark nights.

We might stray from our subject and discuss the many things which are of use in the wildfowler's hut ashore or cabin afloat. Most of the things used, however, are of common daily experience, but let us remind shooters that these things, which are of most service, are easily forgotten, yet of much inconvenience if one is compelled to do without them. In the hut, all chairs, tables, beds, etc., should be made to fold up and take up little room when not in actual use. Pictures, mirrors, and such-like things are of no service, are at most

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times in the way, and do not give any comfort. We cannot go further in detailing the wildfowler's furniture, though we feel sure some hints on its construction would prove of interest. The subject is one, however, essentially on camping-out; so we must pass it over with the advice that comfort lies in having all that will be of utility and nothing more. Other and superfluous articles are only in one's way, and their presence, to say the least, is obnoxious. A reliable thermometer to record temperatures, and an alarum clock should be included in the hut or cabin outfit.

Appended we give a list of the punt-shooter's ordinary outfit. The list is one of a double punt and all gear. The object of such a list is for reference, and in order to show how an inventory of the gear should be kept, so that when an article is broken or lost, the list can be checked over and marked accordingly until the broken gear is repaired. Of course, it is a list for a punting outfit only, and makes no inclusion of other craft, hut, or cabin furniture, cooking utensils, etc.:—

One double-handed punt, with fittings complete. (Fittings comprise cockpit cover in two halves, two locks and keys, breeching-rope, five rowing spurs, one sailing crutch, one towing shackle, one sculling spur, bottom boards, two ring-bolts on blocks, plug, two sheet eyes, gun crutch with elevating gear complete, mast ring and step, removable cockpit coaming, two double-ended paddles eleven feet long, one short double-ended paddle seven feet long, one spoon paddle, three oars, one light oar for sculling, one mast, one lug-sail complete with tack, sheet, and three reefs, four trestle forks for cleaning big gun on, two forked setting poles,* one short, one long, two seats, one gun-rest, two boat-hooks, two cushions, one mop, and one punt carriage.)

One 2 in.-bore B.L. punt-gun in wooden case, complete with trunnion fittings, cleaning rod, inside scratch brush, oil

* Shod with brass forks and weighted so as to float vertically.

mop and felt cleaner, one leather breech-cover, one muzzle plug, and two lifting sticks.

One wooden gun-case, with two single-barrel 12-bore "cripple-stoppers" and cleaning rod for same.

External clothing for punting :—Two pairs leather thigh boots, two white duck jackets, two woollen guernseys (white), two pairs oilskin knickers, two woollen skull-caps (white), and two oilskin capes.

Various :—One punter's magazine, one aft magazine for gun hangers, crutches, baling pot, gun float and cord, etc. ; one pair half-ton blocks and fall, two two-inch falls, two strops, one sack, one grapnel, with line and snap-hook ; four gun-hangers for cripple-stoppers, one pair mud-pattens, two oak rollers, one iron snatch-block, one bucket, one tin of oil, two shackles, one bird-hanger with vermin-proof disc, two hand-lamps, one chest containing loading gear for punt-gun cartridges, viz. powder, shot, wads, wad-cutting block and punch, shot and powder measure, tube extractor and case cleaner, ignition tubes, oakum, tow and waste, and loading-stick ; one chest containing tools, viz. one hammer, one mallet, one pair pincers, two punches, one brace with bits, one spokeshave, two gimlets, one movable spanner, one rivet set, one tin of grease, one screwdriver, two paint pots and two brushes, one for white and one for red ; one lead pencil, one two-foot rule, one outfit repair box containing copper rivets, washers, nails, and tacks.

Personal :—One glass, one pocket mariner's compass, one pocket aneroid, one cartridge-extractor for 12-bore gun, one large pocket-knife, one chart of each ground to be visited, one wildfowler's diary, and one cartridge-bag. Lastly, in the question of accessories, we must deal with the small guns.

Perhaps the better term of "cripple-stoppers" may be applied to shoulder guns aboard fowling punts. Their use should be reserved for one purpose, i.e. shooting crippled

fowl that may be likely to escape after a shot with the punt gun. Some punters frequently employ shoulder guns when out fowling to shoot at odd birds. This is a great mistake, if one desires ever to get a shot with the big gun. These sounds will travel miles over open flats, especially on calm days which are most suitable for punting. Where fowl are much harassed or scarce, it is customary with many shooters to carry a large shoulder gun aboard the punt, such as a 4-bore, in the hope of meeting with a couple or so of fowl. At such places a shot with a swivel gun is usually an exception to the ordinary run of things ; thus the punter may go out purposely to use shoulder arms, with his big gun ready if a shot presents itself. Of course, popping off with small guns will not benefit his chances in this direction, but I suppose at these places heavy shoulder guns are the order of the day, though with true punting it is a dead letter. It is not so much with regard to heavy shoulder guns that I here intend to refer, but more particularly to those guns used in the gunning-punt merely as "cripple-stoppers."

In the first place, we divide punt-shooting into two kinds, double-handed and single, merely for present reference. Widely different are the two kinds of swivel-gun shooting—not, of course, much in the main object, yet very much so in the working. This, I think, will be verified by all those who have experienced both single and double punting.

In a double punt two "cripple-stoppers" are required, one for the gunner and the other for the puntsman. These are best if single guns, for then they are lighter and handier in every way, and do not seem nearly so cumbersome in the punt. This can only be appreciated after experience. Lots of inexperienced amateurs doubt this, and advance that double guns are quicker loaded and better in many respects. I leave time and practice to teach these people the contrary. Whatever advantages a double gun over a single may have, I do not hesitate to say that in the case of a double punt these are more

than compensated for in the fact that it is easier to keep a single gun clean, they will stow closely alongside in the cock-pit, and are lighter and handier to use and carry over bad ground ashore, and as breech-loaders they are quite fast enough in their working. The single-handed punter will, no doubt, find nothing to beat a double gun for his work, as, being all alone and having everything to do himself, he can possibly use to better advantage his first two shots than any following ones. With a single-handed punter a double gun does not seem in the way of working the punt, as in the case with double-handed craft. Both single and double guns, if to be employed as "cripple-stoppers," should be sound and well made, and, for preference, ejectors. It is grievous to see, even with care, what rough treatment "cripple-stoppers" are subject to. If much used, even the best do not last more than a few seasons, although every care has been taken to keep them free of rust. All that can be done is to regularly clean and oil them, yet with handling them the grease is removed, and the consequence is they rust immediately. Thus we may not be carrying the point too far by saying it is practically impossible to keep "cripplers" from rapid decay, especially when fowling on the tide. Of course, if one's purse will permit, it is always best to use good guns, but in the case of punt-shooting this is looked upon by even wealthy persons as a matter of extravagance, for the guns seem to rust more than actually wear away. Personally, we use strong, cheap guns, and are satisfied if they last three seasons. Some of the Yankee firms turn out strong, cheap guns, which answer the purpose of a shoulder gun for a punt-shooter. They are sold in the British Isles bearing English Proof-house marks. I should not advise the purchase of very common guns. These are dangerous and not cheap. A repeating shot-gun to take five or six cartridges makes a good "cripple-stopper." The universal 12-bore standard is the gauge generally employed for punt work.

"Cripple-stoppers" should have their allotted places in the gunning-punt. In the double punt the guns may be placed one to the right of the gunner, the other to the left of the puntsman, and suspended in hangers hooked on to the cockpit coaming of the punt. A waterproof cover tacked to the coaming so as to fall over the guns will protect them from spray, water, etc. In a single-handed punt the fowler usually carries his "crippler" hung on to the coaming at the right side of his boat.

"Cripple-stoppers" well cleaned and kept greased last three times as long as they would if neglected. A stiff plug of oakum, a tight fit in the barrel and knocked through with a strong rod, cleans a tube wonderfully well. Soft, easy cleaning is no use for removing dirt and rust.

Now as to ammunition. This should be of the best, for it is very undesirable to have a stuck case when crippled fowl are helter-skeltering in all directions from you. Kynoch's "Perfect" cases are remarkably good for wildfowl shooting, yet, despite careful resizing, etc., it is a mistake to use them too often, for when they get old they are liable to jam in the chamber of the gun when fired. The chief drawback to "Perfect" cases lies in the fact that a lot of work is needed to be done to them before they can be recharged. Water will not affect these cases as it does paper. Some of the waterproof brands of paper cases and the grouse case are good for wildfowl guns, especially ejectors. These, however, must be kept as dry as possible. Unlike the ordinary paper cases, waterproof brands are unaltered by a little moisture, though it must be remembered they will not stand a dipping like brass cases. A good load for a 12-bore "cripple" gun is $3\frac{1}{2}$ dr. of black powder, or its equivalent in some good make of smokeless, and $1\frac{3}{16}$ oz. of shot. No. 5 is the best shot to stop wounded duck; for geese use No. 4. Some of the light 1 oz. shot loads, recommended for use in 12-bores with certain kinds of nitro powders, will kill ducks cleanly if well within range.

CHAPTER V

PUNT-GUNS

We must first remark that guns strictly classed as punt-guns are those large fowling pieces which are mounted in the fore-part of a duck punt and fired either resting in a crutch swivel or by means of some other mechanical method. Even the heaviest shoulder guns cannot be classed as having any relation to punt or swivel guns. This latter name has, no doubt, been given to large fowling-guns, on account of the very usual plan of firing them supported on a pivot balance or swivel generally called the gun crutch. In the use of a gun crutch, breech ropes are employed to take the strain of the recoil when the gun is fired. Of course, there are many other methods by which punt-guns are fired. The various systems used in taking up the recoil of punt-guns we intend to deal with later.

The bore of a punt-gun may be any size ranging from one inch to two inches, or even larger. The choice of bore depends entirely on circumstances, such as the purse of the fowler and the number of fowl expected to be met with. Large punt-guns are wasteful where only small companies of fowl are encountered, whereas small guns answer at a great sacrifice where fowl are found in large flocks. It might be said, however, that the smaller swivel-guns are ever useful, where the large ones only speak well when circumstances suit. The meaning is that a fowler would not hesitate to send, say, 6 oz. or 8 oz. of lead at a small bunch of fowl in the hope of securing only three or four,

where the fowler whose gun threw from 1½ lb. to 2 lb. of shot would refrain from doing so. Thus we may imagine that the small punt-gun fowler under such circumstances would be the only one to obtain fowl, yet at the same time we must not neglect to remember what the situation would be like if the reverse was the case. No matter; our remarks here are simply given so as to illustrate how a fowler should arrange so as to have a gun suitable for his intended fowling grounds, by first ascertaining what quantities of fowl are likely to be met with. In wildfowl life, however, we are subject to occasional alterations from the ordinary run of things. This is so; nevertheless, it is always wiser to take as your example the general rule than to keep plodding after the exceptions which so rarely occur. It can be well advised that, if fowl are, generally speaking, known to frequent your ground in small lots, a small gun will return more satisfaction and better sport. Pleasure will be found, only, in the use of a large gun when fowl are numerous. We, of course, leave the novice fowler to strike his own medium where thought necessary.

We now come to the question of how a punt-gun is best loaded in practice, at the muzzle or the breech? Muzzle-loading swivel guns, for a very long time after present-day breech-loaders were invented, were considered by expert punters to be by far the better weapons. The reasons for this were that breech-loading guns seemed to fire too light a charge when compared with muzzle-loading guns of similar weight; and, again, the advantages of more convenient loading claimed of the breech-loading gun were not thought by experienced fowlers to be of so much account, chiefly because quick loading is not a *sine qua non* in a punt-gun; it was also argued, that change of shot size was never needed, as the fowler loaded his gun, in nine cases out of ten, fully knowing what kind of fowl he was likely to meet with. Then it was further advanced that in a muzzle-loading punt-gun there was less chance of anything

going amiss, also that the cost of firing worked out to be much less per shot than in the case of breech-loaders of the same size, apart from the fact that the muzzle-loading guns themselves were, as a rule, about half the price of the first breech-loading punt-guns on the market.

It will thus be seen that the muzzle-loading swivel-guns died a very hard death indeed with even rich amateurs. Nowadays the breech-loading punt-gun has found a footing which, no doubt, it will hold to the end of guns and punting. The advantages of even a modern breech-loading punt-gun over a muzzle-loader are not so great as many uninitiated in the art of punting would be led to surmise; nevertheless, such are the advantages of breech-loading guns that with well-to-do amateurs they are universally employed. Certain it is that the breech-loading punt-guns of good sound working design are more pleasant to use than muzzle-loaders for many reasons. They can, in the case of large guns, be loaded without unshipping ropes, and a great point lies in the fact that the cartridge can be changed on sight of fowl, according to size of shot most suitable to kill them. Speedy loading is, perhaps, another advantage. This used to be much emphasised by gunmakers in the sale of their goods; but to the practised fowler it is thought of little note, as not more than once in a hundred times does a chance occur for another punt shot immediately after a first discharge.

Breech-loading guns can be loaded in rough water; yet rough water is not what a punter ever wishes to find. Although we should not care to use a muzzle-loading punt-gun again, we do not consider the advantage of the breech-loader as essential as some consider it. We find, whatever the case may be, breech-loading guns are foremost with amateurs —perhaps more generally because such weapons are of more modern production than anything else. It would be well to state, however, that we have had our attention

drawn to some large fowling-pieces which loaded at the breech, and these dating back to almost the first days of the gun.

The professional fowlers who use large guns invariably have muzzle-loading ones, no doubt well knowing that as punt-guns they can have nothing better for their purpose as far as shooting and a shot at fowl are concerned, and, moreover, they are cheap compared with breech-loading guns and cost less to use. These are advantages which for a poor fowler would dispose of any argument to the contrary.

Some of the many kinds of breech-loading guns on the market we intend to deal with later; also a few methods of converting muzzle-loading guns to breech-loaders, chiefly for the benefit of amateurs of moderate means and who wish to be in a certain sense up to date. Ammunition for punt-guns will also require dealing with in another chapter.

The question of how to throw a large quantity of shot at fowl to best advantage I have before remarked upon. It is undoubted that 3 lb. of shot thrown from two tubes, 1½ lb. each, will generally do more execution than if all discharged from one large tube. If the double gun be built so that the barrels discharge quickly one after the other, and their killing circles at a fair range eclipse each other, there should be little trouble in seeing that such a discharge will be more disastrous to fowl than if all thrown at once and in one large circle. In the case of a shot with a double punt-gun of such action as described, directed at sitting fowl, the result will be that the first shot takes them on the ground, and the other the instant they spring. Also it may easily be seen that where the gun is sighted (which should be at the densest part of fowl) the shot will be thickest, since the killing circles of shot from each barrel overlap. It may be needless to add that large quantities of shot are required where fowl are very plentiful.

The selection of a punt-gun should be made after considering whether the numbers of fowl to be followed are large or small. This matter may be clearly understood, but it would be well to remember that, unless one's gun is suitable to circumstances, it is not very likely that pleasant results can be expected. The punt-gun which seems to be of general use at most ordinary fowling-grounds in the British Isles is that of about 1½ in. bore, and capable of throwing a charge of lead varying from sixteen to twenty ounces. Where fowl are generally met with in small lots, a gun of 1¼ in. bore, sufficiently strong to take the heaviest loads for this size of gun, will be found to answer well. With a small-bore yet strong gun, the chances are that light charges will be thrown with good effect, and still such a gun can be used with a heavy load. Of course, there is a limit to all charges, though in the case of a small bore the fact lies that a light load can be used, whereas with a large bore this is impracticable if fowl are to be killed clean and deadly. We may all know that every fowling-piece shoots best with its correct load, though in the case of a punt-gun some modification of the charge may be successfully attempted, according to circumstances and conditions.

Some noted fowlers have argued that it might be beneficial if the shot fired from punt-guns could be formed into an elliptical shape at the point of killing range, if strong shooting could be guaranteed. This would certainly be of advantage for some shots, but not all; for, with the ordinary circle, better returns can never be hoped for when the birds are placed suitably for a good shot. The elongated shot patch can be obtained by loading with side-spreaders in the shot charge, though, from personal experience, we find thin and weak shooting is the result, and for those who contemplate trying such a fad, we advise them to be content with a round patch. Nothing will ever be better.

The cost of breech-loading punt-guns is very high, com-

pared with that of muzzle-loaders. We advise that those persons of moderate means desirous of purchasing a breech-loading punt-gun should endeavour to secure a second-hand one. Be sure it is efficient in its working. Nothing is worse in practice than a bad-working punt-gun. Rather than this, procure a muzzle-loader. The first breech-loading punt-guns that came out were said to be heavy when compared with the charge they fired, and they shot soft, besides being bad in many other respects. I think this can hardly be applied to our present-day punt-guns, thanks to the interest in punt-guns that has been taken by such well-known gun-making firms as Messrs. J. and W. Tolley, Holland and Holland, and a few others. As a whole, ordinary gunmakers know nothing about punt-guns, although many of them imagine they do. There can never be any comparison between shoulder guns and swivel-guns, so widely different are they in more than a few respects.

The most costly punt-guns are invariably plated with nickel or silver and left dull. When the plating wears off, the gun should, of course, be replated, though, failing this, they take no harm if kept bright with emery (rust spots attended to regularly and rubbed bright) and well greased. Muzzle-loading swivel-guns and other less costly big guns are usually painted either with ordinary white lead paint or some aluminium kind. This latter is capital stuff for painting a punt-gun.

Every care should be taken to keep punt-guns clean, both inside and out. We may all know that punt-guns are subject to very rough work, and, despite every effort to keep them clean, rust is certain to appear. This is particularly so with guns used on the tide. It would be well to remember that the life of all swivel-guns depends greatly upon the amount of care bestowed in keeping them clean. If neglected, a punt-gun will soon rust into a dangerous condition.

Something might be said about the practical construction of punt-guns; but, as I fear this may be bearing too near another subject, I suffice to add only a rough outline of the matter. The barrels of the first swivel-guns were invariably forged iron, and known generally as "skelp twist." This material itself was not of high merit as a quality of iron, but for the purpose in question nothing seemed to answer better. This iron is very tough. It is used up to the present day, though the use of steel for making gun barrels has done much to put it out of favour. The iron is welded in a spiral manner into a tube or gun barrel. This means that the longitudinal grain of the iron runs circumferentially in the barrel and ensures great strength. In the forging, boring, and grinding of iron barrels great care has to be taken to prevent lifting the grain of the iron. This to the naked eye is not discernible in many cases, though, should the barrel be subjected to a heavy strain, the rent of the iron can soon be detected. Thus we may see why a lot of the cost is incurred in the manufacture of big gun barrels. Large and expensive tools and plant are needed for the production of punt-guns. When makers are trying to bring the weight of their guns down as low as possible (a matter much to be appreciated in fowling-guns), it is obvious that the work must be strong and good, to stand the severe tests they are submitted to by the proof-houses, besides being executed in a proper, methodical manner, or dangerous results may ensue.

In the case of steel barrels, we might say, to explain our meaning as simply as possible, that there is no grain, or, if so, it is in molecule form, or runs in no definite direction or length. Thus it is that makers are able to bore steel guns from the solid, and in the various processes of machining, etc., they are not so likely to create flaws in the tube as is the case with tough iron. Perhaps these items, added to the fact that steel barrels will stand heavy pressures safely, go far to answer

the reason why steel is now so largely used in preference to iron.

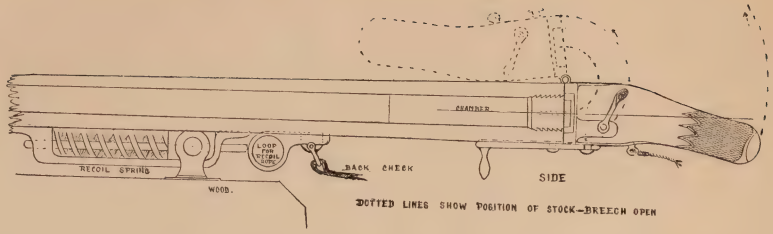
Punt-guns are bored both choke and cylinder. With the choke-bored guns, closer shooting is, of course, the result, though I question if, in the case of a punt-gun, any great advantage is found in this.

Reference must now be made to the double swivel-gun. Very large punt-guns are nowadays not so much in requisition on British waters as formerly, owing, possibly, to the irregular frequency of large packs of fowl. Single guns of a calibre ranging from one and a half to two inches, are found quite large enough, and suit well for general purposes. Very large guns have no great advantage unless used where fowl are unusually plentiful. It has been pointed out that a double gun throwing, say, thirty ounces of shot from both barrels at or about the same moment will generally kill more fowl than the same quantity of lead fired from a single tube. This may be theorised by saying that the shape of the pattern made by both barrels of a double gun is elliptical. The killing circles half eclipse each other. This causes the greater portion of the shot to strike where the patterns overlap. In practice the centre of the double pattern is that part required to hit the thickest part of a company of fowl. Consequently, the double pattern of a double gun will cause greater havoc amongst fowl well placed, than an open and more scattered pattern from a single gun shooting a charge which the double gun fires from both barrels. It might be said that an advantage exists in the double gun being able to concentrate a close pattern where the fowl are grouped, and a more open pattern where they are more scattered. This could never be done with a single gun. In the matter of expense, also, the double punt-gun has an advantage over a single, for it is possible to fire one barrel, that is to say, a comparatively small charge of shot, at a small company of fowl. The oval pattern made

by the double gun would only occur when both barrels were discharged simultaneously, or nearly so.

There is no doubt that a double punt-gun is a more deadly weapon (weight for weight) than a single, especially where fowl are exceedingly numerous. First cost, however, is an important item. In spite of all the advantages claimed for the double gun, we must add that, although these advantages may appear far ahead of any of those to be found in other punt-guns, they are most assuredly paid for at the outset, for double punt-guns are not weapons which are made and kept on stock by any gunmakers. We cannot state definitely the cost of a modern double punt-gun, because so many items are brought into account, any one of which might easily add £10 or £20 to the cost of the gun. We should think £150 a fair price for a 1¼-inch bore double punt-gun of modern construction and built to specification. To those who can afford to enjoy their sport properly, the matter of £ s. d. is not of so great a consideration as with those less favoured individuals who have to cut according to circumstances. Poverty is said not to be a sin, but we must admit it is inconvenient—very.

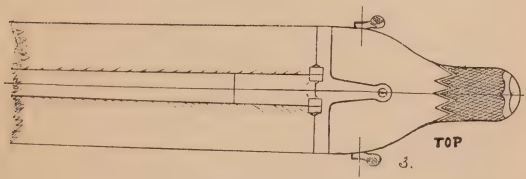
Our sketch roughly shows the outline of our ideas of a double punt-gun up to 1½ in. bore. We should not advise a larger bore. As we stated, the design here depicted is necessarily copied from existing double swivel-guns, some of which we have had the good fortune and pleasure to personally inspect. Some alterations have been made at the suggestion of a gunner who has had a weapon of this kind for several seasons. These alterations we figure in our sketch. The stock is complete in itself with the locks and pulling mechanism. The action of the locks should be such that, with one trigger only, the right may be fired without the left, or the left alone, or one after the other or both practically together. Unless there is a light breeze to clear the smoke quickly, there is little chance



1½-in. Bore B.L. Double Swivel-Gun. 200 lbs. weight. Barrels 8′ 9″. To fire 32 oz. to 34 oz. of shot, both barrels

of scoring a second and a flying shot. The screw breech pieces are exactly similar to that we figure in connection with the conversion of an M.L. punt-gun to B.L., except that the stock is not attached. The strikers are fitted in the screw breech pieces. A small spiral spring keeps the striker from pressing on the cap of the cartridge. The extracting device is on the same principle as that shown for the converted punt-gun and the cartridge cases also. The screw breech pieces are turned in or out by means of a "star" spanner, which we figure. This method is recommended as being strong and simple. The stock of the gun is hinged above the barrels at the breech, and secured by a latch lever below, when in the closed position. To load, the stock is swung up and laid on the breech end of the barrels, where it is then conveniently out of the way. Drop-down stocks in practice are found to foul the ammunition-box and other things in the punt. To withdraw fired shells and load both barrels ready for firing occupies from two to three minutes, which is quite fast enough for wildfowling. The locks should be arranged to fire as we have described above. The most important item in connection with firing a double discharge from a double punt-gun is that both barrels do not fire exactly together, but one quickly after the other—about a tenth of a second. To obtain this result in his famous double-barrelled muzzle-loading punt-gun, that well-known old-time wildfowler, Colonel Hawker, had his gun made to fire one barrel by a detonator and the other by flint and steel. Pulling both triggers at once, the flint and steel ignition was more tardy than the detonator; consequently, one discharge followed the other a fraction of a second later. This plan of firing the gun seems to have answered well in the Colonel's case. The theory and, no doubt, practice of firing a double punt-gun in the above manner is that one barrel takes the fowl as they sit, and the other the instant they extend their wings to rise.

The recoil of a large double punt-gun firing both barrels together, or nearly so, gives a heavy shock to a punt. A special punt must be constructed if the gun is above $1\frac{3}{8}$ in. For a $1\frac{1}{2}$ in. bore double gun of about 200 lb. weight a strong, well-built punt of not less than 22 ft. 6 in. long, with a 4 ft. 3 in. beam, is needed to safely carry and use such a weapon. As double punt-guns are unwieldy to work if placed in a flat-bottomed crutch and on a rest forward, and also as they are required to be mounted in such a way that a second-barrel shot may be easily taken without any distraction from the first discharge,



Plan of Breech End, Double Swivel-Gun

mechanism of a most reliable kind is necessary to counteract the "kicks" of the gun. In other words, the gear should be such that the first discharge does not alter the shooting of the second, no matter how quickly after it may follow. A second shot when fowl are not thick has generally to be taken flying, supposing that the smoke clears sufficiently soon for the gunner to do so. This demands that the gun be pivoted so that it can be readily and easily swung a reasonable travel in any direction. The pivot socket of the spring gear is fitted into a solid elm block, 12 in. wide, 16 in. long, and 6 in. deep. This block is fitted into an oak box made of $1\frac{1}{4}$ in. wood, and stayed and fixed to the main floor plank of the punt. The main floor

plank of a gunning-punt should run from stem to stern, the chocks of the latter securing it at each end. This is important in punts built to use heavy guns. Inside the oak box, fore and aft, are two rubber pads, disc shape, 4 in. diameter and 1 in. thick. The elm block is fitted into the box with no "play" except on concussion longitudinally on the rubber buffers, which are intended to reduce the shock of the recoil. Although the block is free to travel against the rubber cushions in the box, it is arranged not to come out of the box. Two strong top strips of oak, which act as top friction slides, prevent the block from jumping out. We do not figure the box, because after describing it the arrangement should be simple enough. The main point to be observed with regard to recoil gear for large guns is to see and make sure all is strong and equal to the work it has to stand. To complete the recoil gear for the double punt-gun, a stout breeching rope is fitted. This rope may be secured to the gun by trunnions, but a loop under the barrels in the present case is neater, and answers as well. The rope is passed through a hole in the stem chock of the punt, and may lead under or over the fore-deck as may be preferred. Leading over the fore-deck, and well exposed to the air, the rope may more readily dry after being wet, and thus last longer and be less liable to rot. The loop to take the rope on the gun is fitted on to a lump formed on the bottom rib, which latter is brazed to the barrels so far along from the breech. The recoil rope should be arranged with a loose end so that it can be adjusted in length to allow for stretching or shrinking. In the case of having the gun mounted on a spring, the length of the rope is more important than when having only a plain crutch to lay the gun in. In the latter case, unless the rope shrinks or stretches to such an extent as to alter the balance of the gun, it little matters. Instead of making a "seizing" (lashing) on the ends of a recoil rope, we have found a $\frac{1}{8}$ in. by 2 in. copper clip made to fit over the ropes and drawn up with a brass bolt

($\frac{1}{2}$ in. bolt for a 5 in. rope) answer better and save time in adjustment of this very important article in the punt-gunner's outfit. With such recoil gear as described above, there should be little fear of the gun breaking away if care be taken not to fire when the punt is hard aground.

Unlike shoulder double guns, the double punt-gun should be made with the centres of both barrels parallel, i.e. the same distance apart at the muzzle as at the breech, and not to cross their charges as is the case with shoulder guns. The sight on the rib end, centres the overlap of the patterns as before described. Allowance for hitting with the centre of the charge from a single discharge must be made in aligning the gun.

CHAPTER VI

RECOIL GEARING FOR PUNT-GUNS

Of the many recoil springs which have been invented, none seems to have gained more favour than old Colonel Hawker's famous invention. This cannot be wondered at. For a hard and fast means of securing a large fowling-piece, none is more simple or effective. To those persons who wish for the use of a spring to take up a punt-gun's recoil we can recommend this one. Our sketch is thought to be a slight improvement on the original. The back recoil spring is an addition to the gear of this type first used. Although the back check can be dispensed with, its employment is beneficial to the wear of the gear.

Colonel Hawker's spring is so well known that we simply hope to portray the general idea of the gear in our sketch, rather than inserting detail to assist manufacturers. For the guidance and safety of intending users we add some particulars. Nearly all makers of punt-guns will undertake to supply these springs complete with their guns. In the early days of punt-gun recoil springs, some inconvenience was experienced with broken springs. This, however, can hardly be said of those manufactured nowadays, if procured from the right source. Amateur tempered springs of this kind, however, should not be trusted, because practical and constant experience alone is the secret of spring tempering. Our sketch shows a gear suitable for a gun carrying a charge of from 16 oz. to 20 oz. of lead. If the gun to have this gear fitted is a new one, the spring slot or loop can be forged and machined along with the barrel. To fit this gear to a gun already built, the loop is fitted into the barrel with key pieces and sunken key beds or mortices,

and two wrought iron straps "shrunk" around the barrel and holding ends of the loop. This may be noted by reference to our sketch. The iron straps are made small for their seats. By heating them to a bright blood-red they are expanded, and can be driven on. They are then cooled, and thus by contraction secure a very tight grip on the barrel.

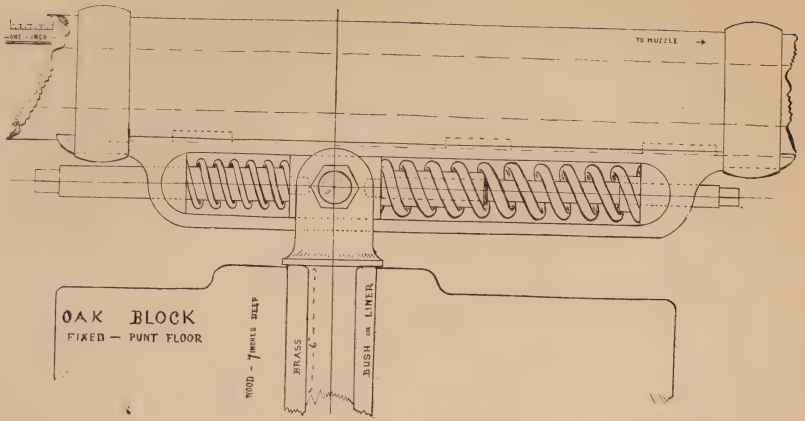
We may add, for those who intend using a spring recoil gear, that our sketch is made from one which has proved of good service in years past, and is of safe dimensions and of original expert design. The width of the sliding block which lies in the double eye pivot is that of its vertical diameter. It is best to make this gear, except the springs, of wrought steel, but it may be made of similar metal as the barrel, and if this latter is not steel, some extra allowance made in thickness for proportionate strength. The back check spring should be lighter (i.e. of thinner wire) than the recoil spring, as shown. The guide inside the coils of the back check spring should nearly fill or fit. This guide, if too small in diameter, will allow the spring to "side bulge."

The whole gear can be readily dismantled, which may be easily seen on reference to sketch. If by some unforeseen cause a spring should happen to break, an iron washer or ring of same size as the coils, placed between the broken parts, will set matters right until such time as a new spring can be procured and fitted. In fitting the springs the requisite amount of contraction is an important item. The correct length of the springs is also of importance, for, unless this, as well as the proper amount of contraction, is allowed for, the correct balance of the gun will be affected. These points are not of so great importance in the case of fitting a complete gear of this kind to an old gun, for then the point of balance can be ascertained experimentally, as when the loop is made with the gun, or new springs are being fitted which may be slightly longer, shorter, weaker, or stronger, for it is difficult

to get two springs exactly alike. The recoil spring should be contracted three-eighths to half an inch; the back check spring one inch to one inch and a quarter. To put in the springs, first place the main or recoil spring in position with the tubular guide inside the coils, and cup-headed collar washer in the end of the loop. Then push through the spindle and screw same into the sliding block. Contract the back check spring, and force it into position, and fix the sliding spindle by screwing it into the sliding block. The back check spring being lighter and more easily compressed, is best fitted last. It is well to see that the back spring is of sufficient strength when compressed about an inch to cause the recoil or main spring to contract about three-eighths of an inch; otherwise it will be useless—in fact, worse than this, for it may permit a dangerous fly-back of the gun, especially if this latter is a large weapon fully loaded.

There is usually no elevating gear with these springs; but if the gunner desires a lifting gear, I see no reason why a screw socket could not be adapted. As a rule, the stalk of the double-eye fits into a plain brass bush let into an oak block, bolted with copper or Muntz's metal bolts to the floor of the punt; or, if used aboard a sailing-boat, a quarter-inch iron or steel plate fixed to a short fore-deck. The use of a light rope fastened from the punt's bows to the breech-end of the gun (2 in. for a pound gun) is recommended and advisable as a safeguard against a break; yet at the same time is not absolutely necessary.

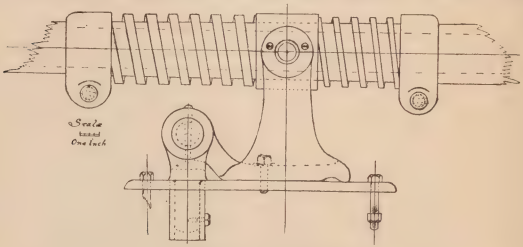
Of course, the fitting work of this gear should be perfectly accurate. Much will depend upon the quality of the work for the lasting of the gear. "Play" or movement in any part should suffice to condemn the job; for, if allowed to go into practice, a break will very likely result. The novice would do well to employ a gun expert to test the work in any new gear of this kind of which he may have the slightest doubt or fear.



Colonel Hawker's Punt-Gun Recoil Spring with Back Recoil Check

This will ensure safety in after use, besides setting all doubt at rest. Always keep the working parts well oiled or greased, not only for lubricating purposes, but also to assist in preserving the metal from the action of salt water. As it is practically impossible to keep this gear clean and free of rust, it is best to paint the springs and all non-working parts with some kind of metal paint.

In spring recoil gears low centres of pivot action and high mounting of the gun must be guarded against. With a low



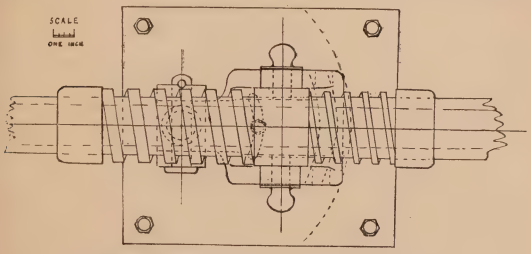
Recoil Gear for large Swivel-Gun mounted in the bow of rowing boat (Elevation)

pivot centre the gun is apt to throw its muzzle dangerously, besides shooting high. Mounted high, a big gun is almost certain, sooner or later, to smash something, if only a man's head. In such a position, also, a punt-gun is pretty certain to plunge its shot. Bear in mind that guns are dangerous articles, even the smallest of them.

We figure a recoil gear specially designed for firing a large swivel-gun mounted in the bow of a rowing boat.

The chief points in this spring recoil are,—strong and accurate shooting of the gun, ease in alignment, and reduction of longitudinal strain on the boat. These items permit of it being fitted to the largest of fowling-guns. We do not design

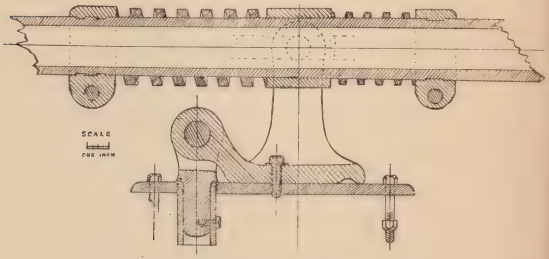
this spring gear for a double punt-gun, yet it could be adapted for such a weapon by placing the spring under the barrels, similar to the method employed in the Colonel Hawker spring. The design herewith is one of entire originality on our part. We specially recommend it for firing a big gun from the bows of a light sailing boat. By the aid of this spring a large gun can be safely fired without any inconvenience whatever. This gear is found by our experiments to be so strong, if made



Recoil Gear for Swivel-Gun mounted in the bow of rowing boat
(Plan)

exactly to our specification, that no breeching-rope need be employed as an addition to safety, provided the fastenings of the bed-plate to the boat are perfectly secure. For punting, our choice is the stout breeching-rope by itself. The reasons of our choice we state in another part. Our gear, like most other spring recoils, has no elevator, and on this account, besides others, we do not advise its use, or any other steel spring, aboard a punt. Of course, elevating gear could be arranged in its working, but not without extensive additions. All spring gears of this kind require close attention to all their working parts, to keep them free from sand and rust. This matter alone is one which goes a long way towards putting them out of

favour. The cost of manufacture of this gear cannot be stated. If a number were ordered together, the cost of each might be reduced, but as this is not likely to be so in the present case, the intending user must bear the cost of first production. Those who are amateur fitters and turners might arrange the work piecemeal; the casting and machine-work they could not themselves do could be given out to some small engineering firm. On receipt of the parts they could fit and assemble them.



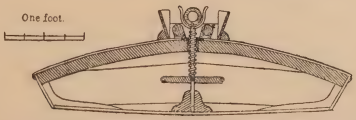
Longitudinal Section
Recoil Gear for Swivel-Gun mounted in the bow of rowing boat

This work is rather out of the line of ordinary gunmaking, and as the ordinary profits on guns are too high to allow this class of work to be taken profitably in hand, gunmakers do not, as a rule, care about such jobs as these. By far the cheapest plan, in the long run, is to put the work into the hands of some small, yet reliable, engineering firm or machine-tool makers.

Before going on to describe our gear, we may state that a similar one to that here shown has stood the test of seven seasons' wear, and is now as good as when first made, answering its purpose perfectly. The working is thus:—On recoil the forespring contracts. The pressure of the recoil is taken upon

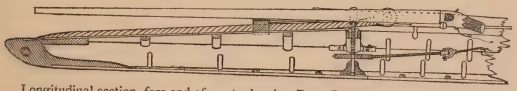
the trunnions, which force the holding bracket with a downward thrust on to the bed-plate of the gear, owing to the working axis lying above and in front of the bearing surface of the bracket. The rebound of the recoil spring is checked by the after-spring or "back check."

The material recommended is wrought or forged steel for all parts. The bracket may be a steel casting, and the bed-plate and pivot socket of brass, if thought better. Reference



Cross section through gun-beam of large punt, showing Elevator and Screw. Rope Recoil Gear for Punt-Gun

One foot.



Longitudinal section, fore end of punt, showing Rope Recoil Gear for Punt-Gun

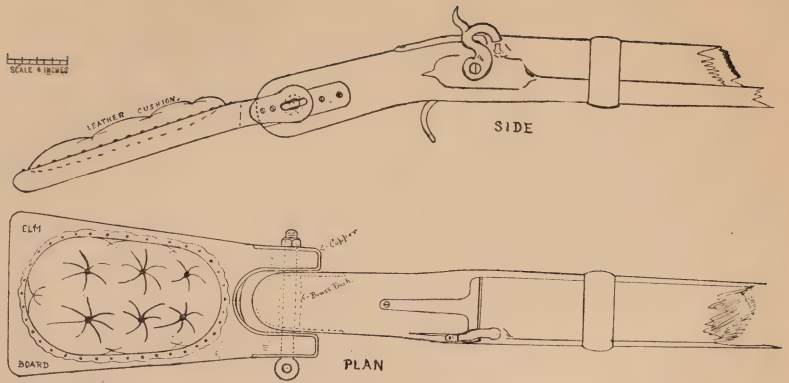
to our sketches should suffice for almost anyone to grasp the idea of construction. Those versed in engineering practice may more readily see what is required. Our design is one of a 2 in. gun. The forespring is $\frac{3}{8}$ in. square steel, the backspring of $\frac{1}{4}$ in. The trunnions, ring holding same to the gun, and all other working parts except the bed-plate and bottom of the bracket, to be skin-hardened. The top or face of bed-plate and the bottom of the bracket should be planed. The clips holding the springs in position on the gun-barrel are turned inside with shallow "spigots," so as to fit corresponding sockets in the gun-barrel and hold better.

The gun is prevented from turning, by the "flats" on each side of the barrel, facing the flat ends of the trunnions. The trunnions cannot get out of place; the half-moon holding pieces slot into them just outside the bracket sides and prevent this. These slots, when holding pieces are removed, enable the trunnions, which are really loose pins fitted in, to be withdrawn when required. The bracket is held down with a set-screw and washer. The screw fits into the bed-plate. This screw stands in a radial slot cut in the bracket. The slot permits the bracket to move sideways on its travel. In the faced bottom of the bracket is cut a groove to assist lubrication in the way of grease to stay on this part. A small set-screw working in a small groove, holds the pivot pin from jumping, should the boat lurch. To unship the gun from its bed-plate, remove the set-screw holding down the bracket, and slack back the small set-screw in the pivot socket. The pivot-pin, bracket, and all gear except the bed-plate can be removed along with the gun. Our sketches are to scale. For smaller guns a proportionate reduction of material should be made.

To mount this gear in the bow of a sailing-boat, a suitable support must be fixed, and the bed-plate of the gear bolted to same. Cross beams of oak, tied with an extra gunwale strip forward, is best. If mounted in a punt, a chock of ascertained height is needed to bring the gun to bear its correct distance above water. Unless the punt is a very strong and heavy one, the gun-mounting chock should be stayed with a $\frac{5}{8}$ in. iron rod fastened from the stem chock.

This gear, like all other springs, should be kept well greased when in use, and before placing it away for any length of time.

It should be needless to add that all the work in this apparatus should be of the best. Every part should be a good fit, yet perfectly free and smooth in its working. Unless



Boot-jack Recoil for Light Swivel-Gun

this is so, and the best of material used in its construction, there is danger of a breakage occurring with the gear, which is a matter almost too awful to think of in the case of a very large weapon fully loaded.

A word should be added on the subject of the boot-jack recoil. The arrangement may be easily enough understood by reference to our sketch. The recoil board (elm) may be varied in length according to the depth of the punt in which this gear is to be employed, and the bend of the gun-stock. The longer the board is, the less recoil will be felt. This length, however, must be determined according to the depth of punt, etc. About seventeen inches is the average height. The padding of the cushion is best of horsehair, covered with leather. Wool loses its elasticity to an appreciable extent when wet, and canvas is not so lasting as waterproof leather. Thus it is inadvisable to use either of these materials in making the cushion. The board is slightly hollowed to take half of the cushion. The boot-jack is attached to the gun-stock by a through-pin with a nut. The double-eye of the board when the nut is tightened holds the pin, this latter turning in the single-eye of the gun-stock end, which is fitted with a brass bush. Thus all wear takes place in the brass bush. This can be easily renewed. If much used where sand abounds, the gear wears slack in a few seasons if used a good deal. If the gear is not well fitted up, and "play" exists in the pin-hole of the gun-stock, a nasty jar will be felt when the gun is fired. All in order, a gun carrying from seven to twelve ounces of shot (never more) may be comfortably used by means of this recoil gear. The double-eye of the board is fenced with a copper band to strengthen it. The connecting-pin should be made of wrought mild steel. The lower edge of the board is rounded so as to slide smoothly along the floor of the punt.

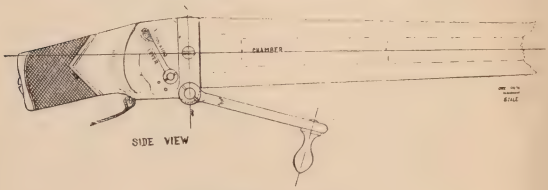
Although we come across punt-guns of bores $1\frac{1}{2}$ in.

mounted with boot-jack recoil, few are used with the full loads for this bore. We, personally, know a few fowlers who have suffered by attempting to do so. Most boot-jack recoil punt-gunners use a charge varying from seven to ten ounces of shot and about two ounces of powder, ignoring altogether the size of bore, which is a safe arrangement to make. If heavy loads are to be used (i.e. anything over a pound of shot), employ a recoil rope, as previously referred to.

CHAPTER VII

CONVERSION OF MUZZLE-LOADING PUNT-GUNS TO BREECH-LOADING

Breech-loading guns are, without doubt, the order of the day in every class of shooting. Although they have not such great advantages over muzzle-loading punt-guns as many people would imagine, yet they are, nevertheless, the weapons used nowadays by a large percentage of amateur wildfowlers.



Converted M.L. Punt-Gun to B.L.

The special features in a breech-loading punt-gun are, greater convenience in loading and cleaning, and the power of readily changing a cartridge on sight of fowl for one which the size of shot will best suit the intended immediate purpose. And we think these aids to the comfortable working of punt-guns, if we may be permitted to term them as such, must surely be enough to place the breech-loader first in this respect. But we find many skilled fowlers who are prepared to argue to the contrary, so we must leave the question an open one. It is

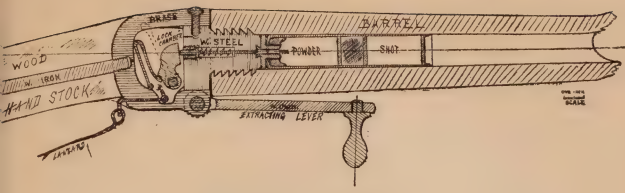
a mistake to think that the quick loading of a punt-gun is a matter of importance. Really it is one of small moment. To load a large fowling-gun easily and quickly by opening the breech may be more pleasant than loading from the muzzle; but we think that is all which can be said of this improvement. In actual fowling afloat, there is usually plenty of time to load. Three shots a day (unless random shots are unwisely taken), or four at the most, are about as many as one need ever expect to fire out of a punt-gun, fowling on British waters as things are now. Of course exceptions may occur, and oh, how anxiously we all seem to cling to these exceptions rather than stick to the general rule! Exceptions in wildfowling occur but once in a decade. Work on general lines, and things will answer much better.

As modern punt-guns are now all breech-loaders, and many really good old weapons of the muzzle-loading type fall into the hands of amateurs who wish, as far as possible, to be up to date in their gear, yet have to consider the outlay, we give a few hints on the conversion of punt-guns, and describe a design from a gun which has acted well. We do not advise men who seek to earn a living at times by wildfowl shooting to have their muzzle-loading swivel-guns converted, as the job is rather costly, even when done as cheaply as possible, and the alteration does not usually improve the shooting of the gun unless a great deal of work is done; and, lastly, the charge has generally to be reduced for the sake of safety, because the gun has to be chambered to take its proper cartridge. Practical wildfowlers were much against the first breech-loading punt-guns put on the market. The objection to the weapons arose out of the fact that they were very heavy, in proportion to the charge they would fire—an important item afloat. Muzzle-loading guns at that time fired much larger charges of powder and shot than a breech-loader could of the same weight, and, what was of greatest account, they

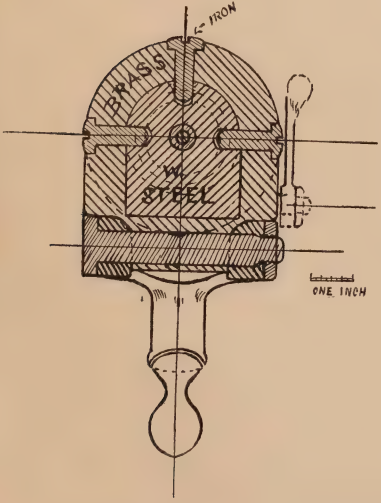
shot much better. Consequently the earliest breech-loading punt-guns did not meet with favour in the eyes of men who knew what wildfowling was; and one could not wonder that these serious matters of extra weight and worse shooting could be overlooked for the sake of being able to push in or pull out a cartridge easily at any moment—a thing they all knew in practice was of little value, since they generally set out in quest of a certain kind of fowl, and loaded with a shot size most suitable for the work expected, and for which they were, as a rule, fully prepared. Thus we may see how hard the old muzzle-loading punt-guns have been to obliterate, even with amateurs.

We are now in the days when the most modern weapons find a place with the amateur, no matter what has been or is to be. So to our subject. Before attempting to have a M.L. punt-gun converted, it would be well to have expert opinion on it as to whether the weapon is sufficiently good and strong for the purpose. As a rule, most M.L. punt-guns are strong enough in the breech to convert, but, as we have said, their charge invariably has to be reduced. If the barrel is a good, stout one, then it can be re-bored, and, although the gun may fire a smaller charge, this charge can be made to give a better pattern by choke-boring. Some M.L. punt-guns cannot be converted, having in the first instance been built as light as possible. These weapons are generally of the small class, built to be fired on the boot-jack recoil system, and weighing from fifty to seventy pounds.

To those who have muzzle-loading punt-guns and wish to have them converted, we trust our design will prove of assistance. It is not original on the part of any single person, but is the result of several trials and improvements gained from experiments and practice with many converted weapons of this kind. Of course, a better gun might be constructed, but remember we have in hand only an old gun to start with.



Converted M.L. Punt-Gun to B.L.
(Longitudinal section)



Cross section of Breech—Line A. B. Converted M.L. Punt-Gun to B.L.

As far as the shooting of guns converted on this principle is concerned, we can speak of one we know which shoots very well and has done some good work. We cannot enter into any details of cost of conversion of punt-guns, this matter being entirely one of where and how the work is done. We can add, however, that B.L. punt-guns when new are expensive. Old M.L. punt-guns are, as a rule, to be bought very cheap. The extra cost of conversion added to the price of an old M.L. gun would hardly reach half the amount charged for a B.L. gun of its size, new.

The method of conversion here adopted is the simple screw-block breech. The M.L. gun is cut as near as possible to the breech. All wood and fixtures in the shape of hand-stock and hoops are removed. If the gun has trunnions, these, of course, can be left in the same position on the gun, for the conversion will make no difference to them as far as balance, etc., are concerned, which can easily be adjusted afterwards. The breech of the gun is then threaded and the chamber bored. The chamber has a slight taper. This is of note, and prevents cases sticking after being fired. Then the gun is ready for the breech-block to be fitted. If the barrel is to be re-bored, the boring can at this time be undertaken. The threads of the breech-block are, perhaps, the most important items in our subject. They should be in shape exactly similar to those in our sketch, i.e. with wall back and tapering fronts. Such a thread is known as the "buttress" thread. The great advantage of this screw for the breech of B.L. punt-guns is that it may be always slightly slack, and yet, when the pressure of discharge comes on the block, the threads are tight. After the gun has been fired, the screw is again free to turn quite easily, and as this screw is to perform an important part in the extraction of the fired cartridge, it is essential that it should not jam, as it probably would do with ordinary V threads. The thread in our sketch is of $\frac{3}{8}$ in. pitch. The gun is

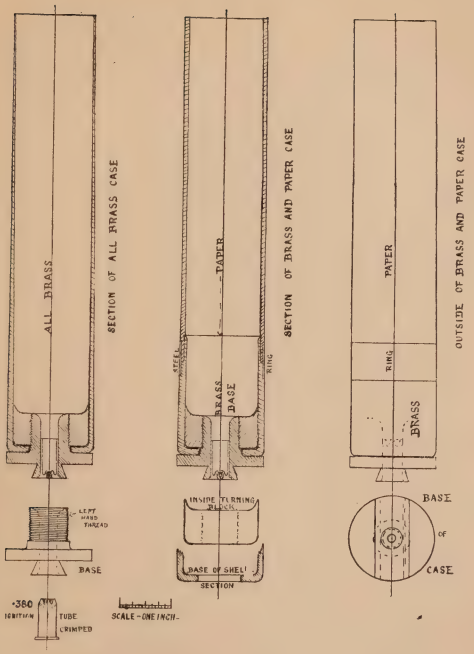
designed as a 1½ in. bore. The charge for such a converted weapon, if stout enough at the breech, should be about 4 oz. of powder and 21 oz. of lead. On the screw-block end is cut a female dovetail, which takes in a corresponding male dovetail on the base of the cartridge case. This dovetail secures the cartridge for insertion and extraction. The details of the cartridge case we refer to later. The striker works through the screw-block, which is made of wrought steel. The gun is hammerless, with a cocking lever on the outside. The lock should be rebounding. The steel breech-block is fitted into a brass face-piece and held with three iron set-screws (about ⅜ in.), as shown in the cross-section view. This brass face-piece contains the lock, the chamber for this latter having been milled out of the brass. The kind of brass we should recommend for this purpose is that which is soft and tough. A lever with a handle to it is fitted with a double-eye hinge and pin to the bottom of the brass part of the stock. This lever is brought at a right angle to the gun-barrel, and used to give better purchase when screwing in and out the breech. It is of further assistance when required to help in drawing out a tight shell. The trunnions of the gun answer as a leverage whereby to hold the gun. With recoil spring gear a similar purchase is secured, but when a gun has only a loop under the barrel to take its recoil rope, then a chain-pipe wrench will be found useful to prevent the gun turning when a "stuck" case has to be drawn.

When the gun is loaded, this lever lies along and underneath the gun-barrel. A wood hand-stock is attached to the brass by means of a long set bolt. There are many items to which we do not refer; but, as our subject is one merely giving an outline of the conversion of punt-guns, and a design whereby the scheme can be carried out, we hope that our readers do not expect details of how the lock and each little part is to be constructed. Moreover, we cannot describe the

process of manufacture of the additional parts in the conversion, this, of course, being away from the point. Readers who are versed in drawings may readily glean our ideas from our rough sketches, and in this we console ourselves that we have done enough.

We give details of the cartridge for the gun in question. Reference to the sketch of cartridge cases will, no doubt, disclose the working. The brass piece carrying the dovetail is screwed with a left-hand thread and sweated into a block inside the case. "Sweated" means to solder by heat, running solder into the part requiring it, after tinning the surface with spirits of salts or soldering paste to make the solder "take." The block and the base of the cartridge case turn, leaving the shell base stationary. By this means the screw extracts the cartridge. Cases may be all drawn brass, or half paper. The latter are screwed with a fine thread on to the brass, and hooped with a steel ring. For 1½ in. bore the brass case answers well, but for over this size we recommend half paper. A .380 blank cartridge for a 1½ in. bore gun answers well the purpose of an ignition tube, but, remember, its charge must be correct. The outside of the brass cases after each shot must be reduced somewhat in size before reloading.

Mr. Charles Whittle, of Church Street, Lancaster, wrote me some time ago saying he keeps in stock (or can obtain as per order) all sizes of paper tubes suitable for punt-gun cartridge cases. Although one can easily make these things, it is cheaper and time-saving to buy them ready made. He also states that he would undertake the converting of punt-guns from M.L. to B.L.; but we believe he only does this on a design of his own, the breech of which he was kind enough to send to us for inspection. We cannot, however, give any details of it here. In passing, we might add that Mr. Whittle is a keen wildfowler, and one who has experimented a good deal with big guns, punts, and motor craft, and, therefore,



Details of Cartridge Cases. Converted M.L. Punt-Gun to B.L.

should know what is required in the field by the fowler afloat.

Our design of a converted punt-gun may be thought heavy and strong beyond reason. If this is so, we flatter ourselves in keeping on the right side. In punting, everything needs to be as strong as it possibly can be, so rough is the work the various parts have to stand.

No one should even dream of accepting a converted gun of any kind, particularly a punt-gun, until it has stood test satisfactorily at a public proof-house, and has been stamped accordingly. We simply mention the matter as a reminder.

CHAPTER VIII

ON LOADING PUNT-GUNS

In another chapter we discuss the question of ignition for punt-guns. At present we turn our attention to loads and the loading of these weapons. Everybody knows that a gun, to shoot well, must be carefully and properly loaded, and it is quite as easy to do this correctly as otherwise. Every gun requires its correct charge to give its best shooting. Overloading of the powder charge is really worse than underloading, because the excess of powder is only blown out of the gun unburnt, and develops gases outside the gun, which find their way amongst the shot and scatter it. Besides this, the over-quantity of powder is against the correct working of the other parts of the charge, resulting in open patterns, which simply means weak penetration. It is an error to think that large quantities of powder in proportion to shot benefit the shooting of a gun; nevertheless, many people imagine this. A charge of powder with the doubt cast on the full side may be well, but further quantities are only detrimental to good practice. On the other hand, an under-load of powder can only be expected to result in bad penetration of the shot, especially if this latter is not proportionately reduced. Good patterns of shot can be secured by using light loads of powder and keeping the shot charge constant; but what is the use of pattern if the penetration is bad? Every size of bore in swivel-guns—in fact, to be exact, every gun—may be said to have a load with which it shoots best. Most guns, however,

can be varied a little more or less in the quantity of the load, according to circumstances; but this must be done respectively with powder and shot. Care must be taken not to overdo this varying of the charge. No benefit is derived from so doing; but in actual fowling to lose a little in one way may be to gain in another, and so on. Thus the matter brings things, in the long run, to about a level.

We now come to the question of proportions of powder and shot. Equal quantities were, and are yet, with some people, a sworn-by standard. These proportions we have found give fair patterns, but the penetration is rather on the weak side. Measure out bulk for bulk of powder and shot, reduce the shot charge about a twenty-fifth of the bulk, and increase the powder about a similar amount, and the improvement of the shooting will be astoundingly apparent. Of course, every size of bore should have a standard load, but when heavy shot is being used, a little more lead and less powder is a general rule, and the reverse in the case of smaller shot. Breech-loading guns should have their bore-size or calibre measured inside the barrel just clear of the chamber. The chamber diameter is not the size of bore. We say this because we have known persons who have taken the outside measurement of cases and referred to that measurement as being the size of bore of the gun. In spite of our table of bores and charges suitable for them here appended, it is always advisable to stick to the loads given and recommended by makers for use in their own particular make of guns. Our table refers mainly to M.L. guns, and note must be taken of the weight of each weapon. A good and full proportion to work from when calculating charges for punt-guns is 3 oz. powder to 1 lb. of shot. The shot can be increased an ounce if large pellets, and correspondingly reduced if small pellets are used. The size of shot for the pound is No. 1 or 2. Following is a table of bores and charges suitable for same:—

Size of Bore.	Weight.	Length of Barrel.	Charge of Shot.	Charge of Powder.
1 to 1¼ in.	50 to 75 lb.	6 ft. 8 in. to 7 ft. 6 in.	8 to 12 oz.	1½ to 2½ oz.
1⅜ to 1½ in.	80 to 120 lb.	7 ft. 9 in. to 8 ft. 0 in.	16 to 20 oz.	3 to 3¾ oz.
1⅝ to 1¾ in.	130 to 150 lb.	8 ft. 0 in. to 8 ft. 6 in.	22 to 28 oz.	4 to 4¾ oz.
1⅞ to 1 15-16	160 to 170 lb.	8 ft. 9 in. to 9 ft. 0 in.	30 to 34 oz.	5¼ to 6¼ oz.
2 to 2¼ in.	180 to 200 lb.	9 ft. 0 in. to 9 ft. 6 in.	34 to 40 oz.	6¼ to 7½ oz.

Some larger weapons are in existence. These, however, are unwieldy brutes, and may really be said to be too large for wildfowling. The largest we know of is a gun with 12 ft. length of barrel, 300 lb. weight, and firing ¾ lb. powder and 3¼ lb. shot.

As we have said, excessive powder charges used with standard loads of shot, increase the velocity and penetration, but out of cylinder-bored guns (especially M.L. guns) the patterns are invariably patchy and scattered by so loading. Some one may say this is not a serious matter with a punt-gun. We wish, however, to say that it is, as one desires all his shot to be thrown where the fowl are thickest, and, besides, single pellets, unless they strike a bird in a vital part, do not kill. Choke-boring of guns eliminates or rectifies, to an extent, this scattering of the shot charge with heavy powder loads, since it unquestionably improves or tends to close the pattern. Close patterns, however, may still be patchy, even with choke-boring; but when this is so, something is generally amiss with the workmanship of the boring, or else the loading is a long way from being correct. With black powder, penetration can be readily secured by adding to the powder charge and slightly reducing the shot. We have said this loading tends to give bad patterns, yet have pointed out that these latter can be improved by choke-boring. This being so, we gain both pattern and penetration, and with these two factors combined, a very reasonable argument may be held that the modern B.L. punt-guns of to-day are really the best weapons for wildfowling that have ever been built,

despite all that may be said of the grand-shooting M.L. swivel-guns built in days gone by. In saying "a heavy charge," it must not be taken that we mean more than a gun can burn, or is designed to burn. This would be, as we may all know, superfluous, and of no use in obtaining good results. To make our meaning clear, we might say that a gun can burn only a certain quantity of black powder (this is the only kind in use for large swivel-guns), and no more. Evidence might be borne on this point by saying that if a fowler wishes to shoot a heavier charge than his gun can satisfactorily take, he must obtain a larger gun. No man can burn over a certain quantity of black gunpowder in a gun, but it is only too true (and sorry we are to note the fact) that he can quite easily create a pressure in the breech of his gun great enough to burst it. We might as well here observe, for the benefit of all concerned, that to use nitro compounds in big guns not built for the use of such powders is pretty nearly a similar act to committing suicide. The powders to be recommended for punt-guns are the large and hard-grained Colonel Hawker's and Captain Latour's, both equally good, and if damp, can be dried without deterioration. Dry gunpowder slowly, and do not overheat it.

It is of the utmost importance that charges of powder burnt in punt-guns should be perfectly ignited in order to attain good shooting results. By this it must be understood that, besides making thoroughly certain that the charge will be fired, it is equally necessary that the ignition be correct. Later, the reader may better see what is meant. For the present we might say that for good and pleasant shooting it is as bad to over-ignite a charge of black powder as to do so insufficiently. The latter, all may know, is simply saying that, in the instance of shoulder guns, bad caps make bad cartridges, no matter how good the powder, wadding, shot, and general loading in them may be. Bear in mind that the

all-important fact of making sure that the plan adopted to fire a large charge of powder is one that is practically sure to work. After this the priming charge can be adjusted to give the proper ignition flash. Nothing is more heart-sickening to the fowler afloat than a miss-fire with the punt-gun. Although one can with confidence rely on his weapon satisfactorily answering the tug at the lanyard, yet he can never be absolutely certain until the gun actually goes off. One feels pretty sure of muzzle-loading guns discharging when the ignition arrangements are of good design and the necessary preparations have been carefully carried out. But let the conditions be reversed, then the odds and chances are, undoubtedly, very much against success. Breech-loading punt-guns of good design, when loaded, have an advantage of having their ignition charges better protected from the weather than is the case with muzzle-loaders; but, as we have said, one can never be certain, for, unless very recently tested, there is a chance of improper detonation, deteriorated priming, powder, etc., and the question is, even if the gun does fire, does it do so properly? The least defect in any part of ignition is enough to assist failure in the ultimate shot.

No doubt we are viewing things from the darkest corner; but it is well to do so, since so much care and attention must be given to these vital parts of the punt-gun's working. Few wildfowl-shooting authors give this matter the serious reference it deserves; hence our activity in its cause.

A miss-fire with a punt-gun when fowl are within range and affording a good chance is about as heart-aching an experience as any sportsman can endure, and, without doubt, is one which will undyingly remain in his memory. In short, it is the fowler's *bête noire*. With even our best shoulder weapons and the best of ammunition, miss-fires will occur—very seldom, we admit; yet, nevertheless, few and rare as they are nowadays, they do happen, and there can be no

denying the fact. Of course, we do not remember these miss-fires as being of serious account, for the object "snapped" at may be merely a partridge, rabbit, or so on. The punt-gun miss-fire may be at hundreds of fowl—something worth remembering as a very bitter experience indeed. Rarely as "snaps" do occur with the best of shoulder guns and ammunition, they serve as good instances to show that they are equally probable with punt-guns, and as the latter have to be used under atmospheric conditions greatly against the protection of gunpowder, we venture to say that it is only when every care is taken that a discharge can with any degree of certainty be relied on. Otherwise, nothing but dissatisfaction can be expected.

All punt-guns should be designed so as to have an ignition arrangement according and suitable to the size of bore and the charge of powder to be fired. We have seen punt-guns, and large ones, too (muzzle-loaders), which were fitted with single horizontal pillar nipples of not more than half the size they ought to have been. Consequently, these guns never satisfactorily shot the charge they should have done. Their owners admitted that by experiment they found these weapons fired a small (i.e. for the size of bore) charge best. And why wonder otherwise, for it was evident that a heavy, or even correct, load could never be properly ignited in these guns, owing to the undeniable fact that their nipples were of such a character or design, that the flame intended to fire the gun could never be developed sufficiently strong to flash into the body of the main powder charge, as it should do to give good results. One of these guns here referred to, which we have at the present moment in our mind's eye, was, we are rather proud to say, altered in its ignition arrangement by the writer, with such an improvement to its shooting, that its owner, who had used it for many years, in the first three shots after the alteration bagged more fowl than he had been able to do in any

previous six. Needless to state, this fowler was delighted beyond words. He told us that the difference he found in the strength of the shooting of this gun after the new arrangement was far beyond his expectations. The real shooting of a punt-gun and all other wildfowl guns can never be as well tested as when actually tried at fowl. "Plating" shots from guns serve their purpose, but we must all admit there is no better way to try a gun than by putting it to its work.

In the case of a muzzle-loading swivel-gun and a plain breech, if the detonator is good, the flash from the ignition cuts clean into the centre of the bulk charge at the base, by the continuation of a groove across the inside of the breech and in a line with the vent. Probably the best and most reliable ignitions used for firing muzzle-loading punt-guns are the simple tube and double cap arrangements. The tube is not recommended for large charges (say over three ounces of powder), when rather too sudden a shock on explosion would be felt. Nipples, single and double, should be bushed with platinum at the ends of flash-holes. This metal, though expensive, in a marked degree prevents the flame widening the nipple channels, which, in the absence of platinum, would rapidly occur. In twin-cap ignition, where an excess of priming can be used, an escape hole is generally placed underneath, by which means the overcharge can escape.

Although we have been referring, up to the present, to muzzle-loading punt-guns alone, the matter illustrates the theory of proper ignition of big guns better than an ordinary reference to breech-loading swivel-guns. In the instance of an excess of ignition in a well-designed muzzle-loading gun, there is an escape for the overcharge. In a breech-loading weapon this is impracticable; thus for good results the correct amount of priming must be loaded in the firing cartridge or tube. Of course, all who have used breech-

loading punt-guns of any size know that the detonating cap is not sufficient of itself to properly ignite the main charge. The gun's powder charge must have fired into it a flame sufficient to set it away properly, and it is of great importance that this flame be neither too strong nor too weak. In the first place, if too strong, the ignition cartridge will create excessive and sudden recoil from the main charge; whilst in the second, improper ignition often results in half the powder charge being blown out of the gun unburnt, which, consequently, means bad penetration—if any at all.

We need hardly go any further on this point, since all may see that a happy medium of ignition lies between excess and insufficiency. And let this medium be ascertained as accurately and correctly as possible, for in it lies the chief source of the gun's efficiency. It is very easily found by experiment. With new guns by good makers, instructions for loading, etc., are usually supplied. We say good makers. By this we mean good punt-gun makers, and would wish to refer chiefly to those gunmakers who specialise on wildfowling guns, like Messrs. J. and W. Tolley and others. Most ordinary gunmakers know nothing about punt-guns; the honest section of them faithfully admit this, which is much better than pretending to instruct in a matter of which they are totally ignorant, and hence establishing erroneous impressions in the minds of beginners. This is a by-note. Let us revert to our point.

About half a dram of fine-grained gunpowder to 3 oz. of punt gunpowder (the load to throw a pound of shot from a good gun) is about the mark, and with a benefit on the side of full and sure ignition. Do not use fulminating powders, for there is no knowing their constant strength; in fact, variance is generally found in different batches of the one make. Ordinary fulminating powder, we may all know, is a mixture of nitre, sulphur, and potash; but the correct proportions are important;

and in each charge a varying strength is usually found. Hold to the fine gunpowder; it is most reliable.

It should be almost unnecessary to mention that tubes, caps, etc., for igniting the big gun must be kept as dry as possible when afloat. Nothing beats a glass bottle tightly corked in which to keep these articles. Ordinary matches should likewise be kept in a similar vessel, or else, if carried loose or in chip match-boxes in the pocket, they are very liable to become damp, or even wet and useless. A further protection against damp affecting matches is to half fill the bottle they are to be kept in with bran or sawdust—the latter for preference. A leathern cover should be strapped around the breech of all punt-guns, so as to protect this part of the gun from wet.

We intended to give full details of an electrical ignition for punt-guns, so that this method might be employed aboard motor-propelled craft. But we have conclusively proved by experiment that there is no advantage whatever to be gained by using an electric spark for this purpose, even where all the apparatus is at hand. We much prefer percussion ignition, for reasons too numerous to mention here. We have, however, made lengthy experiments on this subject, and can say we attained equally good results as with the customary methods of ignition, yet no better, and we must add, with not half the confidence in the result. The chief drawback is the insulating qualities of the priming powder in the firing cartridge or tube, offering a high resistance against the spark. Our tests were made entirely with B.L. guns. Ordinary induction or sparking coils similar to those used on motor-cars are almost useless for firing gunpowder, as the resistance of the powder against a spark appears to be many times greater than explosive gases, even under compression. At least two 4-volt accumulators coupled up in series are necessary for the primary circuit of the coil. The electrical potential difference at the point of sparking must be of very high voltage to strike through the powder

instantly. The spark is of little use if it is after the type of spark seen on ordinary sparking plugs for gas motors. It must be such that it fuses off the ends of a bunch of three wires, lying and insulated to the centre of the powder charge in the ignition tube. These wires, seeing they are to be used, at most, only a few times, may be made of copper or brass. There is no need to go to the expense of platinum. The ends of the sparking wires must be cased with thin paper, so that a gap occurs to start the spark. The arc then takes place between the wire ends and the wall of the tube, which is earth-connected. If the powder lies close up to the sparking end of the wire, it will then conduct the current without a spark, and, instead of being an insulator, as we have said, the powder becomes a conductor, though it may be a bad one.

By arrangements as above, and by having the high-tension circuit to the gun well insulated, good results can be obtained, provided the coil is equal to its work, and the E.M.F. working it is up to its voltage. We can, however, assure our readers that an ordinary lock and striker mechanism in the breech of a modern punt-gun is as handy as need be. But we suppose we must be always trying something new. Unless a high-tension switch is used in the electrical method of ignition, here partly explained, the firing of the charge in the gun is slow, appearing fully detectable in every case, just like a "hang fire." Such a switch should be well designed to work with a spring and placed near the breech of the gun, and, of course, perfectly insulated. Undoubtedly the hang of the charge when the induced current (through no switch) reaches the priming charge direct from the coil, is due to the momentary resistance of the powder as a medium through which the spark occurs. By this it may be readily seen that the coil should be one capable of sufficient power to overcome the resistance readily.

Wadding for punt-guns cannot yet be beaten if it is of oakum. In M.L. guns cut or punched card wads, if sent

singly, invariably turn edgewise in going down the barrel. Between the powder and shot put a stiff conical-shaped ball of oakum rammed tight. Felt may be as good, but it is not better. Over the shot, place a lightly made ball of oakum, followed closely with a cut millboard wad, which will then not turn. Some gun-makers keep them in stock.

Cartridges—i.e. charges made up in paper wrappers with oakum wad attached, are handy, and greatly convenience the ready loading of M.L. swivel-guns when afloat. A tube spoon loader on the ramrod end is also very handy for loading a heavy swivel-gun. The spoon is so hinged that it can only rise one way when the rod is laid horizontally. By this the loading of the gun and the manipulation of the rod can be worked horizontally. But all this is old and well known. Loading M.L. guns when the punt can be run aground cannot be compared with the same task at sea, for then the gun, if large, must be charged lying flat, whereas when land is at hand the gun can be held vertically, and the powder better sent home. Changing the shot charge with a M.L. gun is not a practice to be recommended, if it can possibly be avoided. Be certain that the cap is removed, and the hammer lowered on to a small pad of oakum, if the shot has to be drawn. After a shot, and before recharging, be sure to thoroughly dry out the gun with two or three balls of oakum. M.L. guns should be carefully primed, and, remember, it is of great importance that this is done properly. When not expecting a shot, keep a leather breech-cap over the breech of a M.L. punt-gun securely fastened, to ward against damp and water.

B.L. punt-gun cartridges are loaded in proportions of powder and shot in exactly the same manner as M.L. guns. For wadding, thick felt (which is cut with a wad punch to neatly fit the cartridge-case, and usually the diameter of the bore in thickness) is often used in the place of oakum; not, however, because it shoots better, but chiefly owing to its

being more handy and adaptable for this purpose. Cut card (thick millboard) wads may be put below and above the felt or oakum wad. A tight-fitting stout card wad holds the shot in the case. Both brass and paper cartridge cases are used for B.L. punt-guns. Some guns are made to take steel shells. If properly used in good guns with efficient extracting mechanism, they answer well; but for cheapness, smooth working, and from personal experience, we prefer the paper cases. It is customary with makers of B.L. punt-guns to recommend a special case for their guns. Whatever make this case may be, it is best to stick to the gunmaker's instructions, at least, on this point, should the working of the gun and case after firing be all in order; but if otherwise, then either the gun or case is at fault. Then such a weapon stands far below a good old M.L. gun, and the sooner got rid of the better. With both M.L. and B.L. punt-guns it is wise to unload every night. The task with a M.L. gun is tedious, though not a long one, and as a practice against accident, and in keeping with safety, is one to be recommended. Well it is to remember that a man can only be shot dead once. There is no further chance after such an accident has occurred.

We now come to the question of shot sizes, etc. Shot fired from punt-guns may be any size from No. 3 to SSSG, which latter is about the smallest size moulded. Other and smaller shot than SSSG is known as "drop" shot. Dropped shot is manufactured in three kinds, viz. chilled, hard, and soft shot. Much controversy exists regarding which kind is the best for all-round purposes. As far as punt-gunning goes, we find that it matters little whether the shot is soft or hard, provided fowl are taken at killing ranges, for then both kinds answer equally well. To hold forth all the many arguments relative to soft shot versus hard or chilled would take much time. To begin with, we have heard the hard and soft shot spoken of as though one kind was as hard as steel

balls and the other as soft as putty. There is no such difference. Some say soft shot flattens out on a bone and more severely wounds a victim than if the bone were broken. But even a hardened shot will also do this. Then it is argued that hard shot gives clean penetration through flesh, and should a bone be struck, it smashes it. Yet, again, soft shot will break bones. Further, it is said hard shot "leads" a gun less than soft, yet is liable to bulge the barrel of a choke-bored gun. And, again, hard shot is thought to give better patterns through maintaining, when thrown from the gun, its spherical form, and not being easily crushed, which might create "balling" of the shot charge. We do not wish to state our preference, yet trust that by our brief reference to the advanced theories (for such many of them must be), we leave the reader to choose for himself, and close our remarks on the point by repeating what we have already said, i.e. both kinds will kill if birds are within range.

As a guide to gunners, we give the following latest tables of shot sizes, etc., as manufactured by two leading firms of shot makers :—

ABBEY IMPROVED CHILLED SHOT CO., LTD., NEWCASTLE.

No.	Pellets per oz.
D	2600
12	1250
11	1040
10	850
9	580
8	450
7	340
6	300
6	270
5 min.	240
5	218
4	172
3	140

No.	Pellets per oz.
2	122
1	104
B	98
BB	84
BBB	66
A	56
AA	48
AAA	40
SSSG	15
SSG	11
SG	8½
LC	6

WALKERS, PARKER AND CO.'S, LTD., LONDON, PATENT HARDENED, CHILLED, AND MOULD SHOT.

DROP SHOT.

No.	Pellets per oz.
AAA	36
AA	41
A	44
BBB	51
BB	55
B	64
1	79
2	96
3	119
4	173
4½	200 (special)
5	220
M. game	240
6	270

No.	Pellets per lb.
6½	300
7	345
8	450
9	600
10	800
11	1000
12	1200
Dust	—

MOULDED SHOT (BUCK).

SSSG	310
SSG	220
SG	120
MG	96
LG	72

While we are referring to the sizes suitable for killing certain fowl, it will be as well to include all the sizes, stating generally for what purpose they are used. Comparison of the two tables will show that the number of pellets to the ounce varies with each maker. We take as the standard for our purpose here the Newcastle shot. Dust to No. 11, small birds; Nos. 10 to 8, snipe and small waders; Nos. 7 to 5, game birds, plover, etc.; No. 5, "cripple-stopper" cartridges; Nos. 5 to 1, wildfowling on shore with shoulder gun, No. 4 being a good size for ducks, curlews, and so on. Punt-gun cartridges may be filled with shot in size from No. 3 to AAA. To use any size larger is not aiming at sport. Nos. 3 to 1, plover, teal, curlews, and night punting; Nos. 1 to BBB, duck by day, geese at night; BBB to AAA, long shots at duck, sporting ranges at grey geese, brent, and swans; SSSG, long and doubtful shots at big gaggles of geese. This latter, however, is a bad practice. Larger sizes not

recommended for wildfowling. The fowler who is a beginner will soon find for himself what particular size of shot will best suit the work he has in hand, if he starts with a size as above given, though it may only be approximately. No one can glean fine details on this point. He must learn them from experience. We often feel inclined to think this applies to many things in wildfowling. No matter, if the mark is hit somewhere near, there is then a basis to work from, and that is the main item in a beginning. Perseverance alone must be held in view if perfection is to be attained.

CHAPTER IX

PUNT CARRIAGES, WAGONS, AND HOUSES

One of the most useful tools in connection with punting is a carriage to run the punt from, and to, her beaching quarters, or in and out of the punt-house. Without such an adjunct to the working of a heavy double-handed punt, especially when the punt is to be moved some distance overland, it is very hard work indeed, no matter how short the distance may be. This is, perhaps, even more evidenced when no extra assistance is available. Rollers and so on are but slow tools, even when going is good, and, although they may be very useful to get a punt out of an awkward place, they do but poor service in the stead of a carriage. Carriages for punts need not be elaborate in any shape or form. A pair of wheels simply rigged on a cross axle of wood will suffice for all ordinary purposes in the use of a single-handed punt. A large double punt, owing to its extra length and weight, should have better support to ride on than a single spar amidships. In such cases punts of large size are apt to sooner or later become strained, which means leakage.

A carriage of this kind is sufficiently strong, and gives enough bearance to take the punt a few miles by road. For this purpose, however, we recommend a proper punt wagon. At one end of the carriage is mounted a three-inch diameter oak roller. At the other end two cross-pieces of the carriage body are so arranged that a handspike can be inserted between them, so as to lever the carriage up when the nose of the punt is put on to the roller, and thus push the carriage under the

LEVERING UP THE PUNT CARRIAGE

PREPARING TO LAUNCH

punt and expediently mount the latter on it. In launching, the roller serves as a "run off" without excessive friction or scraping on the punt's bottom. A punt carriage should always be built twice as strong as thought necessary. Then it will stand rough usage—a thing it is unavoidably bound to meet. High mounting in a punt carriage is a bad thing. The punt is hard to get on, and when mounted and going the least obstruction under the wheels will shoot the punt forward and off its carriage. Set the carriage as low as the nature of the ground usually to be travelled over will permit. With the lowest setting, the line of traction—or, in other words, a line drawn parallel to the ground at the height of the axle-pins—will seldom cut above half the loaded weight. Avoid carrying a punt in a lever-lifting boat carriage. This kind of vehicle is a pair of wheels with an arched axle, to which the boat is slung and lifted by means of a lever. They are generally used for running boats on sandy beaches. These carriages strain punts, especially when the latter are slung in them with ropes.

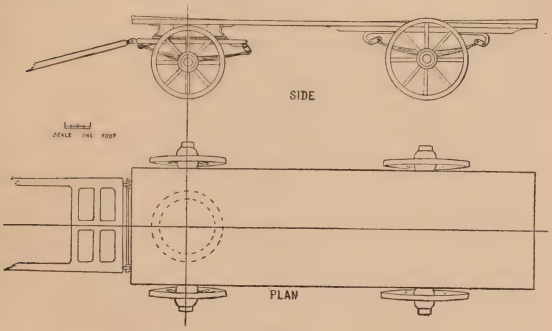
Punt-carriage wheels should have a fair amount of "dish." This, with the axle-pins correctly "set," will give the carriage better life when travelling, and also a more workmanlike appearance. The punt carriage should have every care given to its working parts, for probably it has to do the roughest job of any article connected with punting. If a good carriage and well attended to, it will last a long time, and prove itself of invaluable assistance. Wheels between three and four feet diameter are about the size suitable for a punt carriage. They should in all cases be strong. Light wheels soon give out when used over rough ground. The top of the body of the carriage should come about level with a line drawn through the centre of the axle-pins. This lowering of the carriage on its wheels brings the punt to a convenient height for pushing, and gives a swing to

punt and carriage and thus reduces the chances of shoving the boat off her carriage in case a wheel suddenly sinks in a hole, or catches a stone. Wheels fixed to a through, or what is known as a "live" axle are useless to mount a punt carriage upon. It is of importance that the wheels should be loose on their pins, for unless this is so, they cannot differentiate. A carriage with wheels not able to turn in opposite directions to each other is very unwieldy and unmanageable. The woodwork of the carriage body should be through-bolted, the bolts having square plate washers. This ensures strength. Screws, and even coach screws, are scarcely strong enough—at least, they draw out of the wood.

We might say there are two ways of touring on a real wildfowling expedition, viz. by land or by water. The first means transit of the punt, gun, and all gear by rail or road, the second by sailing or power craft. This latter we intend to refer to later. At present we have to deal with the transit of wildfowling gear by land. To those persons who are continually visiting new wildfowling quarters or who only pay a few days' visit each season to a certain ground, and who usually take and return with them all their gear, a punt-wagon is a very useful vehicle indeed. It saves a lot of unloading and loading up of the punt at railway stations, and by this the welfare of the punt is better protected. Nothing shortens the time a punt will last more than rough or careless handling (which at a railway station it is pretty sure to sooner or later receive) by persons who do not understand what a punt is ; or the shaking and straining it gets when loaded and travelled over bad roads upon vehicles unsuitable for its conveyance. Punters who do not change their quarters, or, if so, not often, would find a punt-wagon of little or no service, so seldom would it be required. A punt-wagon is an expensive article in the punter's outfit ; but to those who have the money and can afford to travel and enjoy wildfowling in a proper manner,

we strongly advise them to include one in their kit, as it will undoubtedly prove of invaluable service whenever it is brought into use.

We do not recommend a wagon without springs. The roads in the neighbourhood of good fowling grounds, and especially in winter, are often very bad. Travelling the punt on a springless wagon over such roads means bumping and shaking, which naturally do no good to the punt.



Punt Wagon

Our sketch of the subject is as simple as we can make it in keeping with the necessary requirements of a punt-wagon. Really, it is nothing more than a long, flat-topped vehicle on four wheels and springs. The front pair of wheels turn similarly to those on an ordinary rully. Reference to our sketch (which is one of a wagon made to take a large punt and all gear) should furnish some idea of what the wagon is like. We cannot say what price would be charged for such a wagon. The one from which our sketch is made, when new, cost £15.

Of course, if built with second-hand wheels and springs (say, half-worn rully wheels), a wagon of this class might be obtained for less.

In loading up a gunning-punt, put as few things inside the punt as possible. Oars, masts, sail, paddles, etc., may travel inside the punt, but the gun-case, magazine, boxes, etc., are better when lashed alongside the punt.

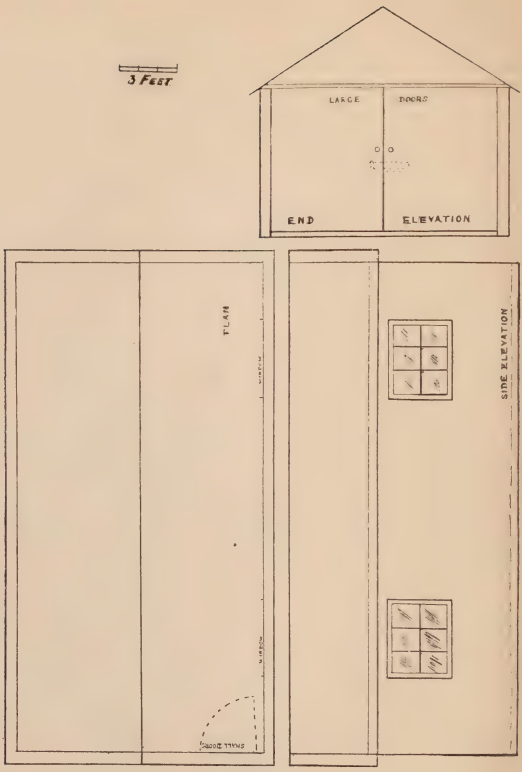
The carriage of punts by rail is very expensive; why, we do not exactly know. Probably it is their length that incurs extra charge. We do know that the same weight as a punt, if stowable, costs a great deal less for carriage than the punt does, for an equal distance. A large double punt will be charged for at the rate of about £2 10s. per two hundred miles in the British Isles. Short distances, up to twenty miles, are cheaper travelled by road—at least, as far as our experience goes.

The punt-shooting sportsman cannot do better than invest in a punt-house. A more useful thing to the wildfowler can hardly be imagined. In it he has a shelter at all times, when necessary, from the inclemency of the weather, a safe and suitable storage for the punt gun, and all other gear which, if not well and safely housed, soon show abuse from constant exposure to the weather and the mauling they from time to time receive from inquisitive, prowling "mouchers." Genuine shore-shooters do not, as a rule, harm punters' gear; yet curiosity often incites them to meddle with and unintentionally damage it. On this score we advise not to lock the cockpit cover of a punt when left outside, for it is pretty certain to be broken open, not with an idea of stealing anything, but out of sheer inquisitiveness to see what is inside. Oars, poles, etc., should, however, be chained and locked to a ring-bolt inside the punt, or, if left loose, they may, on your return, be found to have disappeared, if only stolen for firewood!

Punt-houses are best built in sections, for then they can be

dissected and carted away if the occasion arises. There are many reliable portable-building makers in the country who are quite willing to construct any kind of small house according to specification. Most of these manufacturers do not tie themselves solely to their own designs or any fixed system. Wood (white deal) is undoubtedly the best material of which to build a boat-house. Corrugated sheet-iron sweats a good deal with the variation of atmospheric temperature, and causes small buildings made entirely of it to be damp, and even mouldy inside. If the inside is lined with wood, this dampness does not readily occur. Galvanised iron sheets corrugated make a thoroughly rainproof roof; but even when using these sheets for this purpose it is well to first lay a complete wooden roof, and not simply rafters alone. The floor of a punt-house need not necessarily be of wood; if the situation is fairly dry, it will be just as good, even better, if of the bare ground, for then there will be less harbourage for rats and mice. Wooden floors in boat-houses seem to rot soon through dampness, which, to a great extent, cannot be avoided. Raising the ground inside the house, say four or five inches, assists to keep the house dry, and is an improvement upon leaving it the same level as outside. Windows in a boat-house should be placed facing to the north, and fitted with strong shutters. It is advisable to line the inside of these shutters with sheet iron, so as to protect the glass in the windows from breakage by shot-gun pellets. It seems to be a customary practice with some foolish shore-shooters to test their guns on anything plain and flat they meet with. The shutters and doors of huts and outbuildings situated on wild parts of the coast seem to have a special attraction for these gentry.

We detail a sketch of a house suitable for the punting wild-fowler. It is 26 ft. long by 13 ft. wide by 12 ft. high; 8 ft. to the eaves. A small single door is situated at one end, and a large double door (for running the boats in and out) at the other.



Punt-House

Two windows are placed on one side of the house. Many additions may be made as they suggest themselves to the gunners. Hat and coat pegs can be arranged inside, also cupboards, shelves to hold "cripple-stopper" cases, and the big gun case, blocks, falls, oil-bottles, wadding and ammunition boxes, and so on. "A place for everything and everything in its place" is a golden rule which goes to make punt-shooting comfortable and pleasant.

Our sketch is to scale, and, we hope, will give the general idea of a punt-house for the wildfowler. A house of this size is sufficiently large to stow a good-sized "following boat" during the summer months as well as the punt or punts; for if more than one, the smaller can be slung overhead. Following boats during the shooting season can be beached when not in use, and are not likely to take as much harm as punts do if left in the open. For a single-handed punting outfit a much smaller house would do all that is required. One 20 ft. long, 8 ft. wide, and 8 ft. high, would be amply large for a single-handed punter.

Before building a boat-house on the coast, the sportsman should be careful to see that he obtains full and truthful particulars regarding proper written permission to do so, or he can rent the ground for a mere trifle, which is a far better plan. It is also wise (and, we believe, is the thing generally done by most punt-gunners who own valuable gear) to insure the punt and accessories against loss by fire.

CHAPTER X

CARE OF GUNS AND GEAR

We shall refer first of all to guns, as these are the most important things in shooting. The rough-and-tumble sort of treatment which guns aboard fowling punts are subjected to, to say nothing of the action of salt air and water with which they are unavoidably brought in contact, plays a serious part in shortening the time they will last, without accounting for their wear from shooting. It is, therefore, of interest to the users of fowling-pieces afloat, to look carefully after their weapons, since they are likely to rust out as soon as wear out. With regard to shoulder guns, nothing further than thorough and careful cleaning can be recommended. "Cripple-stoppers," as they are called aboard shooting-punts, are usually not many minutes in use until they are splashed either with mud, sand, or water, and, having to be handled, the grease or oil on them is soon rubbed off. Then, of course, they speedily rust. On landing each time after an outing, the "cripplers" should be cleaned whether they have fired a shot or not. First clean inside the barrel or barrels by pushing through a tight-fitting cork slightly moistened. Dry out the barrel thoroughly and then oil with neat's-foot, sperm, or Rangoon oil. All these oils are good. Gull fat rendered makes a very good oil both for preserving and lubricating the working parts of guns. Next rub all rust off the outside of the gun with a piece of tow saturated with oil. To finish, grease over with "Stauffer's grease." This latter is a capital lubricant not

CARRYING THE PUNT-GUN

easily rubbed off, and withstands the action of salt water better than anything we have tried. It is a kind of vaseline, sold by dealers in motor and engine stores. Two waterproof covers tacked to the inside of the cockpit coaming of the punt, so as to fall over the cripplers when resting in their hangers, keep off a lot of spray, etc., when afloat.

Punt-guns, if old ones, are best painted on the outside of the barrel. Before doing this they should be thoroughly cleaned free of rust, and then treated with a strong solution of lime to remove any grease. The best paint, we think, is the metal paint, aluminium, but the gun may be painted with ordinary white-lead paint, if desired. The portion of the barrel where the gun rests in its crutch, after painting, should have sewn or laced tightly round it a piece of canvas (this afterwards also painted), to prevent friction rubbing the paint off, and rust eating into the gun barrel. Really up-to-date punt-guns are generally plated with nickel, which, if well done, will last and preserve the gun for a long time. The time this plating will stand, however, entirely depends upon the quality of the work, and the manner in which the gun is used. If one does not care to go to the expense of having a gun replated after the plating has given out, the gun may then be rubbed bright with emery and oil. Before setting out on each occasion, the gun must be well and thickly greased on the outside of the barrel. On returning, the grease can be removed if water stands on the barrel, and a fresh coating supplied. This method is a very safe one regarding a punt-gun, for pits cannot occur unobserved, as might be possible with a gun painted. A hundred years of rubbing will not thin the barrel to any appreciable extent. The barrel, when shining bright, can be dulled with tallow or some other fat, and in this way rendered in harmony with the colour of the punt, as well as impervious to the action of salt water, at least for one day. All punt-guns should be fitted with a breech-cap

made of leather. This covers the breech and prevents wet reaching the chamber of the gun to a great extent. The cap should be made to fasten underneath with a couple of straps and buckles. Keep the leather breech-cap well greased with the same preservative as recommended for dressing leather boots.

To clean a punt-gun inside after being in use, knock through two or three tight-fitting plugs of oakum. Next send through a wire brush, to stir up caked and burnt powder, and follow with another couple of plugs of oakum. Then, if the barrel is clean and bright (few are perfectly so), grease inside with vaseline or Stauffer's grease and sperm oil mixed. To remove any rusty spots inside the barrel, apply paraffin and a wire scratch brush. Rub the paraffin off carefully before greasing. Wire brushes are used for sweeping locomotive boiler tubes. Some makes of these (either brass or steel) form capital punt-gun brushes. To clean a punt-gun properly, place it on a firm bench or a couple of trestles. Sometimes wooden forks stuck in the ground, are used instead. As a rule, however, they cannot be fixed steady, and trouble is experienced in keeping the gun firm. Before placing the big gun in her case, plug both ends (of course, only one end if a muzzle-loading gun) of the barrel with taper wooden plugs, around which has been wrapped linen previously soaked in tallow. These plugs fit tight and exclude the air.

We have up to the present been speaking only of breech-loading punt-guns. To clean inside a muzzle-loading punt-gun, first wash out the tube with two or three lots of cold soft water. The gun-breech may be placed in a bucket of water and the cleaner, standing on a bench, can, with a cleaning-rod wrapped with oakum at the end, and used as a plunger, pump the water through the nipple in and out of the barrel, and thus thoroughly wash out all burnt powder. To dry the barrel,

READY FOR THE ROAD

CLEANING THE BIG GUN

pour down it a large kettleful of boiling water. After the barrel has absorbed the heat, run out the water quickly. The heat retained in the barrel will rapidly evaporate what little water stands on the metal. Finish by oiling or greasing the inside with soaked flannel. If guns are to be laid by for some time, their barrels may be half filled with oil, plugged, and shaken, to lay the oil evenly inside. Muzzle-loading guns are a lot of trouble to clean inside compared with breech-loading guns. Few get proper attention, though it pays to look well after them if one would seek to be on the safe side.

A wooden plug made to fit the swivel gun-muzzle is a good thing to keep out sea-water. It should be fitted with a large leather collar or washer, which can be easily seen, and the chance of firing the gun with the plug in is made hardly possible. Saw down the part of the plug which fits inside the barrel. This causes the plug to "spring fit." If left solid, it may swell and stick. Do not plug with oakum. It is a dangerous practice.

To keep guns clean when punt-shooting, necessitates great labour. If neglected, fowling guns soon get beyond cleaning and become dangerously rusty in a very short space of time; in fact, one has plenty of work to keep them anything like in good order, as they require careful attention both before and after each time out.

The care of the punt is also an item of importance. She should be kept, when not in use, out of the sun, especially the summer sun. A boat-house is a useful adjunct to the welfare of the punt, yet a good roofed barn is not a spot to be despised. Whatever place is used to store her in, should be free of draughts. Draughts will dry her up too quickly and warp her timbers. Do not sling her up, but place her about six inches from the ground, on three cross-pieces of timber, one fore, one amidships, and one aft. These will raise her sufficiently to permit a current of air all round. The

floor of a punt-house is best left natural ground. If a floor is desired let it be of cement or concrete. The best punt-houses are those which vary in temperature no more than can be avoided, and are dry enough to prevent the contents becoming mouldy. Corrugated iron is not recommended for building boat-houses, for the reason that in the case of small buildings it "sweats" too much, and a greater variation of heat exists inside the building throughout the day than is the case with wooden buildings. Avoid windows in a punt-house where the sun can shine through on to the punt. Housed in such a building would do the punt more harm than if out in the open.

When aboard sailing craft or other vessels used for cruising along the coast, punts are best raised an inch or two on supports and lashed to the deck. Raising her prevents soaking and gives the punt a chance to dry a little. It is unwise to hang punts in davits when moving from one ground to another, or when on other voyages, as in such positions they are rather apt to strain their side planks. When a punt is stowed for the summer, put a bucket or two of water inside, and see that she is laid fairly level. Then see to the oars, poles, paddles, boat-hooks, mast, seats, gun-rest, mud-boards, crutches or spurs, gun-hangers, and other articles in connection with the punt. If the punt has a cover for the cockpit, these will take no harm if laid inside the cockpit on the ceiling or bottom boards, the latter being raised some three inches off the punt's floor by a couple of wooden chocks. Before laying by the punt, if it be one using a stout breeching-rope for taking the recoil of the big gun, this rope should be removed from the boat, coiled and hung up, which will give it a chance to dry. If thought necessary, before another season, the rope can be tarred by dipping it into Stockholm tar one gallon, turpentine one pint, afterwards hanging it up to drip. Rub off all the superfluous tar, and allow a month to dry. Blocks used for hauling, etc., should be well oiled in

the sheave-pins, their ropes neatly coiled and tied up all together and hung up. The sail (should there be one) must be well dried and free from damp, before rolling and placing it in a dry place for storage, or else it will fall to pieces in one season. The ammunition chest or punter's magazine should be always kept in a moderately dry place, though not necessarily a warm one. The punt-carriage can be slung up where it will be out of the way, after seeing it is in working order, and in better safety than if left on the punt-house floor when put by for the season. Rudders, and whatever elevating gear a punt may be fitted with, should have attention before it is put aside for any length of time.

With such treatment as described in the foregoing paragraphs, everything will take little harm and be in as good condition as ever when the happy time of another season arrives.

Always remember that paint is very important with regard to a punt and many other parts of gear connected with it. It doubles the life of the punt. Without paint she would soak with water when in use, and become almost as heavy as lead, and during her first season out of water she would begin to rot. Punts should be painted a colour outside that will blend with the nature of the surroundings where they are to be used. Dirty white outside is very general. Paint inside and the bottom (both sides) with two thin coats of red lead and boiled oil only, each year. Give plenty of time to dry. Paint poles, oars, gun-rest, and all ironwork (which should have been previously galvanised) the same colour as the outside of the punt. When a punt is old and her bottom planks lose their original firmness, she may be coated on the outside of the bottom with Stockholm tar three parts, pitch one part, mixed together. Do not use coal-tar, which will search through the wood, blister off the paint inside, and, as the wood is already old, will assist in furthering decay in a marked manner, as though the wood had been half burnt.

CHAPTER XI

WEATHER AND EXPENSES, WITH A NOTE ON PUNT CLOTHING

As we have already said, a great saving in punt-removing, if much shifting is done, can be effected by having a specially constructed punt-wagon (this is not a punt-carriage), and, moreover, the risk of damage to the boat is thereby eliminated. Many vehicles supplied are wholly unsuitable to load a punt up on. A flat-topped rully of good length, or a timber lurry (well known in many places as a "pair of wheels," although really there are two pairs of wheels to the vehicle), answers second best to a proper punt-wagon. Naturally, one will know that an article like a punt-wagon will be costly, and would hardly pay itself in any way, unless much travelling was done; then it would prove of valuable service. A punt-carriage is a fine tool, and one of great assistance in labour saving when the punt is housed some distance from the water; but a punt-wagon is an article possessed by few fowlers except those who do a lot of travelling.

Now to original cost of gear. This is a matter which might be discussed almost beyond limit. In the first place, we shall suppose a person who has the money wishes to take up the sport of punting, and requires an estimate of a complete and up-to-date new outfit. With some slight variation, according to quality and size, we give the following sums: £150 to £200. These figures are worked out as follows:—Double-handed punt, complete with all fittings, oars, sculls, poles,

mast and sail, etc., from £30 to £50; B.L. gun, suitable size for double punt, complete with recoil apparatus, etc., by good maker, from £80 to £100; wooden punt-house (do not build, for this purpose, of corrugated iron), from £20 to £30; extras, £15; punt-carriage, £5. A punt-wagon is not included in this estimate. These figures might be exceeded if a very large or a double gun was bought, and a punt built to certain "fads" regardless of any stipulated price. A new good-class single-handed outfit should run 40 to 50 per cent less than that given for double-handed.

We now suggest for the man of moderate means. A good second-hand outfit can often be picked up for very much less than first cost. If a whole outfit cannot be bought, a gun from one quarter, and other gear from another, and so on, can generally be purchased, if properly advertised for. Following are about the figures one can often buy at:—A £60 gun (carefully used ten years) for £25; a punt costing £40 (used, say, six years) for £15; a punt-house, £10 (with carriage paid); a second-hand punt-carriage, £3 10s.; extras, £10. This totals below £65—a considerable difference to first cost, which, probably, would be nearly twice as much.

We have up to the present been speaking of first-class gear. Now we turn to outfits of punts of amateur manufacture and old muzzle-loading guns. These outfits, nowadays, run from £10 to £20, complete with all gear, ammunition box, tools, etc. If a punt is only used in the locality in which one resides, a punt-house can be dispensed with, as long as the gun and ammunition can be stored under cover. This is the cheapest form of punt-shooting, except that carried on by professional wildfowl shooters. Some of these chaps have good old weapons; others have dangerous ones. They are single-handed, except in a very few cases, where two of them join in a larger punt and share the spoil. Prices of their complete rig (single) vary. The usual figures lie between

£5 and £10; but we had an offer once, when ill-luck had continually attended one of these poor fellows, of a punt, with gun, just as they floated, for 30s.

In conclusion, we leave further expenses for the intending fowler himself to think over before taking up the sport, and at the same time hope that our rough notes may be found useful. We should all bear in mind that true sport is pleasant to a sportsman, and a sportsman is a man who sets out for sport, and not with the vulgar notion of "what there is to get." Big bags do not always count alone as sport, for even on the blankest days there is much to interest and please the thorough man, who chooses to be afloat on the desolate wilds which wildfowl love so much to haunt. Be the bag ever so large, if it has not been made in a sportsmanlike manner, there cannot have been any sport. Non-sport is painful to a real sportsman, equally so as the reverse applies. We said "thorough man." Here we might further add to this (though, maybe, out of place) that unless a man is thoroughly sound physically, it is not wise for him to go punting. It tests the physique of the strongest constitutions, though we do not say it harms them. We feel inclined to state that it tends further to strengthen them, provided care is taken with regard to clothing, etc., which is the main point in warding off rheumatism either at the time, or in years to come. Although men who have not enjoyed the best of health have pursued wildfowling for years without any disastrous results, we advise those who do not honestly feel equal to the job to leave such hard and rough tasks as punting to others, for a man who is not of the strongest or soundest make is apt at any moment to collapse under the strain that this sport may give rise to. We may rather err when we say strong. A man need not be a Hercules before he can go wildfowling—far from it; yet, advisedly, he should be "sound" in every way—a good chest, and all other organs up to standard, and of fair

average strength. He can adjust the latter if he only possesses the former.

Gentlemen who wish to employ the services of a professional puntsman will find that good and skilful men of this class who are able to pole and scull well, and who have a true knowledge of wildfowl, are hard to get, especially at the seasons required. However, there are plenty of likely chaps to be got who can be trained. But this takes time, as well as money, added to the uncertainty of final success, for men of the clever wildfowler class are, in country parlance, said to be born, not made. Really good professional men willing to be engaged are scarce. When one is found, keep him ; for a good man is always worth his money.

We annex the weather warnings :—Long warned, get armed ; long foretold, long last ; short notice, soon past. When the wind changes against the direction travelled round by the sun, it is sure to soon change again, generally attended by worse weather. A change of wind from W. to E. by N., or E. to W. by S., which is, of course, in the direction the sun travels, denotes better weather and more settled.

First rise after very low (barometer) indicates a strong wind ; a red sunset, fine weather ; a red sunrise, sudden change to worse weather ; a greenish hue at sunset, wind and rain ; a grey sunrise, fine weather ; a sunrise over dark clouds, wind ; a sunrise under dark clouds, fair ; variable winds amongst the clouds, change of wind in direction of the highest moving clouds ; soft-looking clouds, fair weather ; dark, heavy-looking clouds, changeable weather ; clear, still atmosphere, wind and rain ; small clouds with N. wind, continuance of same weather ; shadowed heavy clouds, squalls and rain ; fog with dew at sunrise, fine weather ; winter lightning, storms ; wind before rain, bad weather, though not for long ; rain before wind, or with it, foul weather ; a sudden clear up during a

storm, renewed bad weather, likely to be worse; mild winds in winter, wet.

All tales of sea-gulls and wild geese on the land being signs of bad weather are not only common errors, but foolish, or that cold winters follow hot summers, and an abundance of berries being a sign of hard winter, and so on, are equally as foolish.

PUNT-SHOOTING

Weather does indeed play many important parts in the lot of a punter. He depends on it a great deal in more than a few respects. In a general way the weather for punt-shooting is looked upon as essentially of a wintry character. This, however, is not strictly correct as regards our islands, for in mild winter seasons and autumn some very good sport can be secured at selected times. Wintry weather, though it may not play any direct part in the sport of an individual day, yet is often the indirect cause of good sport during mild weather or winters in our islands. We mean by this that severe weather abroad is as much, or more, the cause of good sport with punt and gun in our islands as local wintry effects. To give punt-shooting a seasonable term, we must place it amongst the sports of winter; although, as we have said, the sport can conveniently and pleasantly be indulged in during autumn, and, as there is no British law to the contrary, we must make mention of possibilities, though at the same time adding that autumn (especially early autumn) punt-shooting is rather exceptional than regular. Autumn is, no doubt, the best season for the beginner to practise, for then he can choose more genial circumstances than are likely ever to be present in mid-winter.

It must not be supposed that, when speaking of punting as a winter sport, it is one that must be carried on in the wildest and roughest of wintry weather. Far from this, it is a

sport which must be only followed at times when the weather permits. Windy weather upsets nearly all plans of the punt-shooter. The times to be chosen are those when there is little or no wind, yet when the ravages of extreme cold and other inclemencies are most severely felt by the birds. But these times occur seldom with other conditions entirely favourable, for after storms tidal waters run high and rough for days. However, there are lulls which do happen, and if these are taken advantage of at the proper stages of the tide, good sport may follow. Of course, at the actual moment, weather is often bad to judge, but the time of all times (which is one which must be partly foretold or taken thereon) for a good shot is a day's lull in, say, a half-dozen days' storm, with the tide at a stage which suits the locality best. At such times, especially during a hard winter, fowl "pack up" and sleep, resting on land. The poor birds are tired with being driven about in the storm. So wary are real wildfowl that, unless these advantages (which may seem rather mean to the uninitiated) are made the most of by the fowler, the season's bag with the big gun, we can assure him, will be a very small one. Chosen or favourite sites for ducks resting at such times, are along the sides of shallow creeks. These latter afford but scanty shelter for the birds, yet thither they huddle together and sleep, even the sentry dropping off. True, there is little shelter, yet it is evidently enough for the hardy wildfowl of the mighty estuaries. On certain occasions so fearless or heedless are they (all-gone-to-bed sort of thing) of the punt's approach, that doubt is sure to arise in the beginner's mind as to whether they are really wildfowl or not. Sometimes, with careful and noiseless manœuvring of the punt, not a single bird will see its approach, and, as old Tom C. used to remark of such shots, "They'd never wakken alive." So much for the general remarks *re* punting weather.

The more detailed, or, as we might put it, the scientific calculations of weather we must leave to the punter himself.

Every puntsman should be equipped with an aneroid or some form of handy and reliable pocket barometer. They are invaluable, and, combined with experience, are of inestimable assistance to the fowler afloat. We give some further "weather warnings or forecasts" which we have found of service, though as we cannot make a calm day when it is a windy one (being in this respect only like everybody else), we hope to receive no challenges to duel should our tables prove in some instances inaccurate.

A thermometer falls if wind changes towards northerly directions, and rises if wind changes towards southerly directions.

Rise of barometer for northerly wind in N.W. by N. to E., dry or less wet for less wind, and so on. This does not apply when hail, rain, snow, etc., come from the N. with strong wind.

Fall of barometer for southerly wind in S.E. by S. to W., wet or more wet, and stronger wind. This does not apply always when light wind with rain or snow comes from any quarter of N.

On barometer scales the following contractions may be useful:—Rise, for north, N.W.—N.—E. Dry or less wind, except wet from north. Fall, for south, S.E.–S.–W. Wet or more wind, except wet from north.

Further non-barometrical signs, along with inferences drawn from atmospheric appearances, will be given at the end of this chapter.

Nothing has been said about fogs and calms. At these times, if birds are about, shots can generally be secured. Punt-shooting in fogs, nevertheless, is looked upon as no sport; besides, there is danger, not only of losing your bearings, but also of shooting someone, if only a poor brother fowler, who, by the way, may be one who is seeking a livelihood by killing fowl, and in this can be excused for his actions.

In calms, especially those which precede storms, successful shots can often be secured. It is usually only the large double punts, followed by boats, which venture, for at times of calms fowl (ducks) are riding out at sea on deep water. The birds on these occasions are at most times approachable if worked to properly. No doubt they know of the approaching storm, and are resting in anticipation of it.

We have spoken of the weather impossible for punt-shooting, and also of that which is most suitable; but we have not mentioned the kind of weather when going afloat after fowl is practically useless. One day's experience should suffice to instil this. When ducks are scarce, and only seen singly, and when the winter sun shines bright, with a genial warmth, tempting the hibernating butterflies from their holes, it is no use going punting. The ducks are then far out at sea.

During mild and open winters, mallard and widgeon spend much of the daytime far out at sea, only coming to land at night to feed. This is not only a natural habit with these birds, but is further established with them if they are persecuted should they attempt to feed by day, which some of the birds are fairly sure to do, provided their feeding grounds are quiet and unmolested by gunners. But as these circumstances of quietude are not common at most of our British fowling quarters, the usual experience in this direction is more general than otherwise, for only at exceptional times do the birds change their habits at all, should the weather continue mild. When the fowl, during mild winters, are behaving regularly in their movements, the fowler must then set afloat after them at night. The best times, however, must be chosen. Moonlit nights, when a veil of thin white cloud partly obscures the moon and is wafted by a light wind, so that a rather varying light is thrown upon the water, are the night-fowler's glory. At times like these with the tide suitable, he may make a good shot or two. The moonlit nights not to go afloat are those when the

moon shines bright and clear, and not a breath of wind stirs the air, and the term "light as day" can apply. On such nights the fowl can see you and keep moving away just as you nearly get within range. At odd times a clear, moonlit night will answer, if your approach can be concealed from the sight of the birds by an intervening bank, yet not, as a rule, otherwise. Dark nights are no-sport nights for the amateur punter. They may do for the fowl-shooter, but not for the sportsman. Shots fired at sound in darkness, no doubt may kill fowl: yet how many birds are gathered from such shots? About two birds for every dozen brought down is about the mark. Just as "clear nights" can be likened to "butterfly days," so can dark nights be likened to "foggy days," —i.e., as far as any likelihood of sport is concerned.

Before concluding these brief remarks on punt-shooting weather we must not omit to state that little has been said about windy weather and of severe cold accompanied by snow. Windy weather always has a tendency, more or less, to drive wildfowl to sheltered quarters, no matter from which direction the wind may blow. The game ducks (widgeon, mallard, etc.) soon get tired or restless when being buffeted about at sea or on large open waters. They will sometimes seek out sheltered places sooner than ride out on what one would think was, practically speaking, a smooth sea for ducks. This, however, is not so strongly evidenced in birds much shot at, for at some spots the ducks will face very rough water and go down in it to gain what rest they can, sooner than risk their lives by going where they would be more comfortable, yet in imminent danger. The main drawback to windy weather for punting is that, though the punt might stand a little "dirty" water, she is well-nigh uncontrollable when in a "lippery seaway" of any note. Of course, there need not be much sea on to swamp a gunning-punt, and the following of wildfowl in a punt during windy weather is not a wise plan.

But as there are usually lots of ducks in on the slobs, etc., during windy days, a safe venture might be taken by working the channels and creeks, from which occasional shots might be got; in fact, during storms many of the ducks find shelter in such creeks. Be cautious and work up the channels as soon as ever the tide begins to flow, or you may be overtaken by the weather. Severe wintry weather is, without doubt, the best of all for punt-shooting. When all is frozen up inland, and the country mantled with snow, the gunner afloat on the tide may expect to meet with practically all kinds of fowl, from swans downward. There then only remains for him to select his best times to set out, and make good his time when he has the chance, for these chances seem to be few nowadays in our native isles.

Clothing is an all-important matter when punt-shooting. To be thinly and unsuitably clad out on salt water in cold weather is simply courting danger in more than a few respects. No doubt a strong and vigorous person may go for years lightly dressed without contracting anything harmful; yet be assured that, although he may not feel any ill-effects at the time, he will probably suffer in later years. It is always wise to be on the safe side in matters of this kind. We therefore advise sportsmen to clothe well, as well as properly, when going afloat after wildfowl. Let all underclothing be woollen. Flannel next the skin. Of course, as to exact quantity we leave to each individual. We usually wear light flannel singlet or vest, woollen shorts, thick woollen linings or pants, (called by some professional punters "fearnoughts"), and a pair of long woollen stockings. Over this lot we put a thick woollen sweater or guernsey (white for preference), then an ordinary thick woollen cloth coat and knickers. Over the coat we wear a white duck jacket, for the sake of harmonising with the punt. Although these jackets do little to keep out the cold they are not bad for turning a little wet, though, of

course, they are not waterproof. They also serve as an overall for keeping slime and mud off your undercoat and boots, and when dirty can be washed. Over the boots we draw on a pair of loose oily knickers. These keep out splashes. For headgear nothing beats a thick white woollen cap, made like an iron armour helmet, i.e. covering the whole of the head except the face. When not cold this head-dress can be rolled up, turban fashion, and worn as an ordinary cap. If the weather is very cold an ordinary cap can be worn underneath the woollen cap, or, better still, a cap made from the skin of a great northern diver or a great crested grebe, which may then be worn on top of the woollen cap. Do not wear a sou'-wester for punting. It will catch at the back and tip forward when you are lying down in the punt. A mackintosh and a pair of thick woollen sockets to wear as gloves complete the dress. The best form of "mack" for punting is one made of white waterproof material, after the style of a bicycle cape, only short arm-pieces are added. These latter terminate with elastic cuffs. Do not use a heavy article of this kind. They are things seldom worn; most punters prefer to get wet sooner than bother with them. Gloves of the kind here mentioned are easily slipped on and off, and they are very warm and comforting on a really cold day. Should a brisk bit of sport occur they are for the time best discarded, as one can do little more than row or pole the punt in them.

Referring to the question of long boots, these may be either of leather or rubber. The leather boots are, without doubt, the best. They last longer and stand rough usage better. Proper leather punting boots should be made thin up the legs, the foot portion stouter. Do not have your leather punting boots lined with anything. Lining in them soon tears and becomes a bother. Lining is rather a drawback even in rubber boots, though it may be unavoidable. Straps under the instep and round the ankles assist to keep long boots on, especi-

AMATEUR PUNTERS OBSERVING PASSING FOWL

ally when walking on soft ground. Rubber boots do not wear so long as leather ones, owing to the rough work they are called upon to do when punting ; but they answer fairly well for those persons who do not do a lot of shooting in them. As to wearing rubber boots affecting one's system, we have not *personally* found this to be correct. From their insulating qualities, no doubt, they would prove noticeably injurious to some folks, if worn every day for months, at all times and everywhere ; but when only worn occasionally, and when the wearer is seated most of the time, we think that for punting rubber boots can hardly be condemned on this account. For both rubber and leather thigh boots a belt round the waist is indispensable, to which suspenders may be attached to keep the thigh part of the boots up. Be sure to have your boots a comfortable fit for your feet, when your stockings are on. Boots too large or too small are a discomfort to the wearer, but if there is a doubt to be given, cast it on the large side, or you may spend a day in getting them off or a night in bed with them on. Rubber boots should be washed clean of mud, etc., after each time out, and then slung up to dry. Leather boots should be done likewise, but, when dry, or nearly so, dress with the following, mixed well in equal parts : castor oil, best Russian tallow, and Stockholm tar. Do not, on any account, dress the boots when soaked. If the boots should, through neglect, have become hard, rub in a little "Zozone" oil. This oil will search right through, and soon soften them. Then dress the boots over as before. "Zozone" oil can generally be bought at dealers in leather hose-pipes, or through fire-appliance agents. This oil is wonderful stuff for softening and preserving leather ; but if used continually and solely for the latter purpose, it searches through the leather and on to one's stockings, besides making the boots leak through the pores of the leather, as well as weakening the stitches.

CHAPTER XII

HINTS ON PUNTING TO FOWL, AND THE ACTUAL USE OF PUNT-GUNS

We must first describe the many ways and means by which gunning-punts are worked to fowl. Also, it will be necessary to define punting here as of two kinds, viz. single-handed and double-handed. In single-handed punting, a favourite means of nearing fowl is by using two short hand-paddles. The punter lies flat on his chest and works a paddle over each side of his craft, propelling and steering his punt at the same time. In the larger types of single-handed punts a scull is used out of the stern, through a crutch or spur, if in a sufficient depth of water. In shallows, the punt is propelled by what is known as the setting-pole. This is worked through the same spur as the puntsman uses to scull through. The pole is shod with a brass or iron shoe, and weighted with lead, so that it sinks and enables the fowler to push on the ground when the pole end reaches the bottom. If the pole were not weighted, the puntsman lying prone in his craft would not be able to touch bottom with it.

The ways employed to work double-handed punts to fowl are exactly similar to those already described for the larger single-handed punts, except, of course, that in a double punt one man (the puntsman) has all the propelling power of the boat to look after, while the other attends to the gun. One other way of going to fowl in a double punt, is by paddling. The puntsman lies on his back, and, facing ahead, paddles

over one side with a single spoon paddle about six feet long. It must not be supposed that in a double punt the work is lighter because it is allotted to two men. A double punt is much larger than a single, and requires more strength to move and guide it along, especially where sets of the tide and beam winds are to be encountered.

We wish to make no further reference to the comparison between double and single punts as regards their adaptability for wildfowling, than to remark that with well-designed and worked crafts of either types, under favourable conditions, the results are similar, always allowing for the size of artillery employed. Perhaps the double punts may hold an advantage over single in being able to stand more weather and live out in more open waters. It is misleading to say that double punts draw less water than singles, simply because it is generally found that they do so in the existing types of punts. We have used and seen single punts that did not draw quite as much water as most double punts. But we wish to add that these were such large and unwieldy crafts that they could not be worked satisfactorily by a single hand, and no doubt they would have been more manageable if made smaller, with deeper draught.

Before a wildfowler can hope to approach wildfowl successfully in a punt, he must be proficient in the manipulation of his craft to a certain degree at least. This, of course, requires considerable practice in sculling, setting, paddling, etc. Few really valuable hints can be given on paper. Personal instructions from a learned practitioner are better than volumes of written matter. Failing these, practice, of course, must then of necessity be the only road to success. We shall be glad if our few hints here may be of assistance to those who are unable to receive personal tuition. Most people can be easily taught to row a gunning-punt. This, however, cannot be applied to sculling, setting, and paddling of punts,

for it is usual for persons to spend a lot of time before they become acquainted with the elementary parts of the game even under careful training. No more could a man fly, than scull a double punt or side-paddle a single one, with sufficient skill to go steadily and successfully to fowl, if he had had no previous experience. Sculling, poling, and paddling a gunning-punt may seem to those who have never tried it, an accomplishment which may be easily attained, but we can state that the fact of the matter is quite the reverse; for several seasons of practice must be put in before one can claim to be anything like an expert. A gunning-punt is sculled in the same way as an open boat, but the sculling has, perforce, to be done by the operator as he lies flat on his side. This requires a good deal of exertion, and is trying and tiring to the wrist. By dexterous movements of the scull he gains a fulcrum on the punt through the sculling spur. The theory may be better understood by saying that the sculler prises his boat along, with his scull acting on the water as a purchase. The movement of the scull is first flat into the water, though slightly edged to cut below the surface. With a quick turn, the blade is brought at an angle of about 45 degrees to the water-level (this angle at the side from which the last stroke proceeded), and moved in a direction opposite to the apex of the angle in rather a downward course, the sculler at the same time pressing on the handle of his scull. This pressing sends the punt forward. With another quick twist of the wrist, the blade position of the scull is reversed and moved similarly, though opposite in direction to the first stroke. These movements, perfectly and quickly repeated, scull the boat. To steer, strength has to be put into a few strokes, which will divert the bow to the proper course. It is very difficult to scull a punt against the slightest opposition of wind, current, or tide. Smooth, still water is always preferable for sculling, otherwise it is very hard work indeed. Side-paddling of

COMPARISON OF PUNTS—SINGLE AND DOUBLE

CRIPPLE-STOPPING

single-handed punts is performed by first gaining "way" on the punt, then taking powerful and deliberate strokes to keep her going. A stop in a running tideway complicates matters, for, paddling amidships, the utmost skill is required to veer round and regain motion in the right direction.

Setting, as far as pushing is concerned, may be soon learned. It is the swing of the stroke as you lie flat, and the power is given in such a direction as will assist you to steer. The latter is done by side pressure on the spur; yet, if the shove is not properly given, with the correct amount of "pull in," the steering is counterbalanced beyond repair, not so much because the boat cannot be brought to bear on the fowl quickly again, but because all forward motion for the time must be lost in regaining the course. The use of the single side-paddle in a double punt, as far as our experience teaches us, is never of much service except under favourable conditions of wind and tide, as it rather serves the purpose of steering than propelling the punt. The art of using a spoon paddle lies in being able to work it low over the side deck of the punt as you lie on your back, facing front.

Artificial devices have been employed whereby wildfowlers who do not reside on the coast or near fowling quarters may practise sculling and poling. We have personally never used any of these appliances; but we rightly recommend them in a way as being of value in strengthening the wrist and generally teaching or portraying to the mind of the beginner some idea of the subject. It must not be supposed, however, that this kind of practice is of any further assistance to practical working. Space will not permit much reference to this branch of our subject, as it is away from the practical point. We simply add that the method or arrangement for artificial practice is such, that, by elastic-band tension on a scull working in a spur, the punter gains a resistance and works against it, lying flat, of course, in a similar position to that which he would have to

take up in a real fowling punt. The apparatus is fixed to the floor or a small platform. Improvements may be added as they present themselves to the user, such as an elastic rubber lifter on the scull blade, etc., which would act similarly to the buoyancy on the scull if in water. Poling or setting is artificially practised by lying at the rear of a carriage or wooden platform mounted on a single wheel placed centrally. By shoving on the pole the carriage is moved forwards. The direction of the course is worked by poling through a spur similar to that placed on a punt for the same purpose. A level grass field is a good practice ground, as the pole end is destructive on a lawn. It is amusing to see the hopeful wildfowler practising his sculling or poling in an artificial way, especially when his ineffectual struggles get intermixed with his futile, yet determined, endeavours to achieve his object. If he is to make a wildfowler, it is not until his fatigue has temporarily conquered his enthusiasm that he takes a rest, hopeful of final success.

Anybody can fire or let off a punt-gun. This does not say, however, that they can use a punt-gun. It must not be supposed that wildfowl shooting with punt and gun is simply a matter of finding fowl and banging off the big gun into their midst. Nothing is further from the truth. The amount of skill required to become a successful shot with a punt-gun, can never be realised by any persons who have not tried it. Shooting with a punt-gun is a sport in itself, and can be in no way likened to rifle or shoulder-piece shooting. Nevertheless, equally as much skill is required in the manipulation of the punt-gun as with any shoulder gun ; in fact, it is the general rule of things amongst wildfowlers to say that the average person could be more easily trained to become an expert either with a rifle or a shoulder shot-gun than with a punt-gun. The foregoing has been written more particularly to erase the general and erroneous opinion amongst inexperienced persons that punt-shooting is a matter of simplicity,

WORKING TO FOWL: DOUBLE PUNT

SIDE PADDLING TO FOWL: SINGLE PUNT

and a sport, as far as shooting is concerned, implying no particular skill.

The art of calculating distance with the eye cannot be taught here. There is no fixed rule except that of sighting the punt-gun at a mark, a known distance away on the water, and so calculating from this as you approach fowl. Practice alone can teach a man to judge distance. With regard to a suitable range for a punt-gun, much depends upon circumstances. Seventy yards is a good range. Sixty is better if fowl are thick and your shot is not too heavy. Shots may be taken up to a range of a hundred yards; but further distances than this are better not attempted. Long shots frighten and scare fowl, and never kill many. Remember, it is unsportsmanlike to fire long shots, and, moreover, is known to account for the wounding of many birds which are never retrieved. We may know that a punt-gun firing heavy shot will kill an odd fowl from two to four hundred yards away, but that is no reason why shots should be taken at such distances.

Before going into details on the above subject, some slight reference to the many ways in which punt-guns are mounted should be made. The various methods employed to fix large guns ready to fire from duck-punts have, of course, been previously discussed, though attention is again drawn to them, so that explanations may be better understood. There is only one thoroughly practical means by which a punt-gun can be used. This is by having full lifting control of the gun by what has been termed the elevating gear. We here make no allusion to the recoil mechanism of large guns. The other devices by which punt-guns are fired are generally simple forms of the full control gear—of course, being imperfect in lacking many advantages. The requisite movement of a punt-gun when mounted should be such that the gun can be bodily lifted or lowered and balanced, so that by pressing on the breech-end, the gun can be tilted and moved, so that the muzzle has

a short travel to right or left. Many punt-guns are used without any method of raising or lowering them bodily. Some of these guns shoot with good results at their fixed height above the water-line. This fixed height is such as may be found best for firing the gun at a regular distance—say, seventy yards. At distances either over or under seventy yards the fixed height will be found a disadvantage, although in real practice ten yards each way matters little; but at a greater distance than ten yards over or under the regular range, the fallacy of having a gun that cannot be lifted or lowered is most certainly discovered upon experiment. With a lifting gear, the height of the gun can be adjusted according to the distance of the shot. For the sake of argument, and so that our meaning may be better understood, we will give an example. The correct height to set a punt-gun above water-line is required so as to "rake" a company of fowl at, say, eighty yards to the best advantage. We will say that the best height is found to be ten inches from the water, level with the centre of the gun at the crutch. The question now arises, At what height shall the gun be laid if the shot is taken at a hundred yards, or at the shorter range of sixty yards? The height at either of the last two distances, most certainly, should not be that at which the gun was laid for the eighty yards shot. It comes natural to say that for the hundred yards shot, the gun should be laid higher, and for the sixty yards shot, lower. A basis may be fixed to work upon, by saying that at the eighty yards range ten inches is the correct height to place the gun above water-level. Imagine a straight line to be drawn from the point of impact of the shot on the water to the point ten inches above water-level and eighty yards distant, and continuing the line beyond. A perpendicular dropped from this line to the water-level will give the height the gun should be laid, at whatever distance from the apex of the angle the perpendicular is placed. We hope our brief explanation may be understood. The height

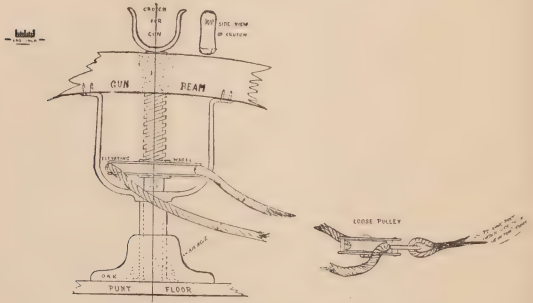
A SHOT WITH THE BIG GUN

of the gun is most important when taking sitting shots, especially on water. A little allowance is often made (according to loading) in practice, and generally an approximate height in a moment of anxiety is found sufficient to prove successful. Should this allowance be overrated, sad will be the result. With flying shots, the height of the gun does not so much matter. Having full power to raise or lower the gun bodily, will be found beneficial when a shot has to be taken over a low mud bank or similar ground.

In concluding the remarks on the height a punt-gun should be laid above water-level for each respective shot, we would endeavour to remind readers that everything depends upon this feature if the fowl are to be properly "raked." We may give example of this by saying that by firing a gun set too high at fowl on the water, the result is that the shot is plunged, if set too low the shot is thrown in such a way that the bulk of the charge strikes the water short and bounds high over the fowl. It is then that the young fowler wonders why he never kills more than three or four fowl at a shot when he should at least have bagged a score. Should the gun be correctly set and aimed, the result, no doubt, will be satisfactory. The first part of the charge will catch those birds which have sprung on sight of the smoke or flash, the centre shot will "rake" the sitting birds, whilst the late and low-flying pellets will ricochet and kill those fowl which happen to be tardy. Then it is, and usually not until then, that the fowler has gained the art of making a good shot, even if not yet advanced in skill enough to take the fowl on wing. The tyro must, of course, first learn to make good sitting shots before attempting flying ones. The beginner who attempts flying shots is going the wrong way to success, for certain, and many will be his failures.

Distance is a most important matter in wildfowling, and can only be calculated through experience. Fixed guns (i.e.

those without elevating crutches) must be fixed at the distance they are set for, if good results are to be attained. With elevating gear, set ten inches from the centre of the gun at the crutch to the water-level, and align the gun at a floating mark eighty yards distant, using the movable gun-rest for the purpose. You now know that when your gun bears on the birds they are eighty yards from you. If a nearer shot can be got, lower the gun and run out the rest, at the same time keeping the gun



Elevating Gear for Punt-Gun

on the fowl. You will then keep the gun at a right height for a nearer shot. If the shot has to be taken before the eighty yards range is neared, then the gun should be quickly heightened. An expert punter would, no doubt, set high for a hundred yards shot or over, and lower to suit the range as he approached the fowl. But this requires a full acquaintance with the gear employed, and perfect judgment of distance.

The right moment to take a sitting shot at fowl needs personal experience to determine. Our few short hints on the point, I fear, will only partly assist. Time must do the rest.

When the first few fowl crane their necks, and the punt is any distance near eighty yards, don't delay. If a sixty-yards shot can be secured, put up the necks of all the fowl by shouting, allowing that the gun is laid right, and fire quickly, sighted just clear of the highest heads. Should the fowl be asleep or unsuspicious, and a near shot is gained, fire fair at them. Any distance a hundred yards or over, must have some allowance made for the drop of the shot. With a shot a hundred yards distance and the fowl on the alert, considerable overhead allowance, about eight feet, must be given the gun, as the fowl spring on sight of the flash or the smoke, and thus are in the air before the shot reaches them. Shots of this kind on windy days, when the smoke is blown aside, appear as though the shot had been a flying one, for the stricken fowl can be seen tumbling back out of the flock. Timing of the shot is here brought into practice, but not to the same extent as with a true flying shot. In real flying shots the lanyard is not pulled until the fowl are on wing. Similarly to shooting with a shoulder gun at a moving object, so does the punter allow ahead or above the fowl with his punt-gun; but, as the distance is much greater, so also is this allowance. The amount of allowance is a difficult thing to explain; in fact, it cannot be learned except by sheer practice, as circumstances differ in each case, such as the speed of the fowl and the distance they are from the gun. Such shots as these require skill in that art well known in wildfowling, but inexplicable on paper, of "timing the shot." Although good flying shots with a punt-gun are pretty work, and certainly the pure art of punt-gun shooting, it must be remembered that to perform such, everything must be accurately gauged, or a very poor shot will be the result. Good flying shots generally return more fowl, but greater certainty lies upon the result of the shot if the fowl are taken sitting.

We have already gained an outline of how to discharge a

punt-gun to best advantage at fowl, and also how to work a gunning-punt. We say, advisedly, an outline, for it must not be supposed that all that is needed for one to become a punt-shooter is to read up on the subject and go straight away and perform successfully. Nothing can be more untrue.

It is not until the instant before firing that a fowler could tell you how best to take a shot. Thus experience is here required, and must be of sufficient value to enable the operator to act in such a way that the result may be satisfactory. In other words, and what may perhaps be more simple, "You cannot be certain of anything in punt-shooting." What have appeared the most easy shots have often proved utter failures, through, perhaps, one-tenth of a second in the timing of the shot, taken riskily as a flying one; and instead of forty or fifty fowl dropping like stones from above the sky-line, one or two have been the disheartening result. These things occur with even those who have almost perfect gear, to say nothing of constant practice. Of course, working with inefficient gear is simply to court failure. In drawing attention to the old proverb, which is very applicable to punting—"Experience is the mother of invention and the best teacher"—we may all know that, brought up in this way, experience is one of the most costly as well as the most bitter teachers. There is no reason why a beginner at wildfowling should not do fairly well from the start, provided he gives his mind to the subject. It is as easy for those persons whose faculties are proficient to shoot wildfowl in a proper and sportsmanlike manner as it is for them to shoot badly, if they will study what they are doing, and what they are about to do.

In setting or going to fowl, it is of the utmost importance to make as little noise as possible. The rattling of an oar has often been the means of alarming fowl and spoiling what might have been a good shot. Noiseless, steady, and stealthy approach, deceives fowl. The many ways of going to fowl

have previously been discussed. Nothing, however, has been said of sailing to fowl. Sometimes a successful shot can be pulled off by sailing quickly, or, in a sense, suddenly, upon fowl. It is only under favourable conditions that sailing to fowl can be successful. Much depends upon locality and whether ships are a common sight to the fowl. Where there is no shipping, sailing to fowl is generally found impracticable. Where shipping traffic of not over-industrious a nature is going on, many kinds of fowl can, under favourable conditions, be sailed down to in a gunning-punt, and shots taken. No doubt, it is the deceiving size of a fowling-punt under sail which deludes wildfowl where shipping traffic is common. Taking a shot with a punt-gun when under sail must be the work of an instant, always to be done smartly and quickly as the punt is brought or swung skilfully, bows across the fowl. Here no time can be afforded for hesitation. Should the gun not be discharged in the right manner at the right moment, the chance of the shot will be lost, and not likely to be recovered.

Approaching fowl in a duck-punt is a matter which must be dealt with according to conditions (truly speaking, geographically as well as circumstantially) as they present themselves. So varied may be these conditions under which a shot has to be taken that to deal separately with only the general ones would encroach too much upon the scope of these pages. Moreover, this is a subject which is so different in each individual shot taken, that we very much doubt if any advantage would be found in detailing the various shots. It will suffice to note only a few of the most general, and leave others for the fowler himself to arrange, with the advice to watch and scheme, prudently, cautiously, and wisely. You can do nothing more. So unlike each other are different wildfowling places around even our native shores that different methods have to be employed at nearly every place. We can, therefore,

taking matters generally, only treat with the flow, high water, and ebb at tidal quarters.

On the rise of the tide the fowler works up with the flow and so benefits from its influence. His advantages are greater at this time than at any other, for he can steal up a creek to within range of the fowl and await the tide, which will lift his punt into position for taking a shot. At high water shots are more constant in form, almost as much so as shooting on a lake or some other non-tidal water. On the ebb of the tide good punt-gun shots are often obtained; but as the water is rapidly shallowing they are not nearly so easy to negotiate as on the flow, when owing to the water rising the punter is unlikely to get stranded for long. Except where large channels run out into the main water, shots on the ebb are most impracticable. At low water it is a matter of gaining draught of water to float a punt within range of fowl. Very little tidal influence is felt at low tide, when fowl (especially ducks) are mostly asleep on the sands or mud, sometimes within range of punting water, at other times miles from it. Always remember that following wildfowl against the tide or wind, and, worse, both these together, is bad, and not considered clever wildfowling, besides being, in nine cases out of ten, hard—yes, very hard—labour in vain. Of course, we cannot always have all things as we should like them; nevertheless if you be wise, endeavour to work so that the tide, wind, etc., assist you, then at least one great difficulty in punt-gunning is overcome.

Experience, combined with a little forethought with regard to the times of the tides and the art of the wind, will generally enable one to eliminate the effects of opposing elements at any particular fowling-ground of which the gunner has gained any previous knowledge, and previous knowledge is always indispensable to the wildfowler afloat, before he takes risks on his own responsibility. A guide in the punt or in a

following boat should be employed until such times as a thorough knowledge of your fowling quarters has been gained. Failing this, very careful voyages must be taken, a chart of the locality carried, and close observations taken of the surroundings, "sets" of the tide, landmarks (if any can be seen), or any guide-sticks which may be noted. Careless and reckless ventures invariably prove disastrous. And what otherwise can be expected? To be stranded on soft ooze about six miles from the mainland, without knowledge of your exact whereabouts, yet well knowing that before nightfall the increasing wind will bring in the tide so rough that your craft will be three parts swamped before five minutes afloat, is never a delightful experience, to say the least of it. Most folks know nothing of being out in a mighty estuary, where nothing meets the eye except, apparently, endless wastes of mud, sand, and water. Perhaps, if the day is very clear, a high church steeple, a chimney, or a windmill on the mainland may just cap the horizon. When we remember that over many of our flats the tide recedes four to six miles with a fall of only eight to twelve feet, the mainland near these desolate flats is generally low-lying. After the punter has proceeded with the ebb of the tide to a fall of about eight feet, he, of course, loses sight of all low-lying mainland. The beginner, not realising this, may wonder why he so soon loses sight of land, when the surrounding flats seem to him as level as their name implies. The deceiving nature of the situation lies in the fact that the fall of the flats is so slight, proportionate with distance, that, to all appearance, the ground looks perfectly flat, which is, of course, generally speaking, accurate, but wholly incorrect from a practical point of view.

We will describe a shot with a punt-gun on the flow of the tide. The birds are mallards, and a couple of hundred strong in number. They are scattered over the mud-flats and along the water's edge. The punt steals quickly up the main

channel, for its occupants well know that a hundred yards or so higher up, a creek intersects the flats where the massing fowl are moving. Into and up this creek the punt swiftly rushes, carried by the incoming tide, which will soon raise it to a level with the birds. Inch by inch, the punt rises, as inch by inch it nears the fowl, which latter are curiously packing up, half in fear, half inquisitive of the unusually sudden appearance of the punt. All around is now open water. The task of the fowler is to pole over the shallows towards the fowl, which by now, being set afloat on the rising tide, are packed together as close as herrings in a barrel, but yet one hundred and thirty yards from the punt. Ah! cruel luck, the punt strikes ground ahead and swings hopelessly off the birds. This seems to make the fowl uneasy, but they do not rise. "Wait for the tide. Be cautious, and don't flurry. The birds still remain," are the whispered orders of the moment.

Once again the punt floats free. With a few powerful strokes of the pole, aided by the tide in the right direction, the little craft swings to her course, not farther than ninety yards from the birds. Any time now, thinks the gunner, yet he does not become over-eager, as he knows a nearer shot can be got. Seventy yards from the birds, and up they spring in a black mass. Steady! wait! pull! And as the quivering "brepp!" echoes and roars over the water, and some forty ounces of BBB speed on to strike the fowl, the gunner dips his head below the smoke just in time to see the shot take them, and, apparently, half the company come tumbling back.

"Watch for droppers!" is the simultaneous exclamation of the punters. So cleanly has the shot killed, that "droppers" are few. The shot has proved a good one—"a well-timed flying raker." For a moment all the stricken fowl seem to lie in a heap on the water. Soon, however, can be

COMING ASHORE

DRIFTING BACK TO QUARTERS

seen the cripples scattering in all directions. Quick up and dispatch the cripples! This, by the way, is no matter-of-form game, and not so easy as one may be led to believe from our simple description of it. Crippled ducks in water are ten times worse to retrieve than a winged partridge or a pheasant in the thickest of cover; and, if the water is the least bit rough, more than half generally escape.

With strong strokes of the pole, the punt shoots up to the dying, the wounded, and the dead, as the gunner busies himself with the "cripple-stopper," shooting what crippled fowl he can. One cripple has taken four shots to bag him, as he scurries off with only his head visible out of water. The shot, being taken at killing range, has proved very deadly, leaving few cripples, though, despite all skill and every exertion to gather all the wounded, two or three escape, helped along with the tide. Attention must now be paid to the dead birds, which lie like so many small tufts of sea-weed floating slowly along on the tide. Ashore jumps one of the punters, and wades about in the shallow water until every dead bird is gathered. He has taken the wise precaution of equipping himself with an oar so as to feel his way, lest he should step in a deep drain or creek.

All the fowl gathered, the work of half an hour's chasing, the fowlers are bound for harbour, glad to get free of their situation, which, though, ordinarily speaking, it has been one of smooth water, is yet rough enough to half fill their shallow craft; for, as the rising tide boils and eddies over the shallow flats, the tiniest of what are known as "breakers," ripples or lippers over the coaming of a duck-punt. They have done their work for one tide, for surely sixty or seventy plump mallards are enough for one day's sport; besides, the cockpit seems nearly gun-beam deep with fowl—a capital shot!

Perhaps some of our readers may have heard of this particular shot. To those who have not seen it chronicled before,

I would just add that fourteen fruitless attempts had been made to outwit these mallards before toll or remuneration for toil and time could be demanded. This, of course, is a brief account of a successful shot. We need hardly describe the reverse. Had anything (to say nothing of shooting) occurred in the form of a "swing off" at the critical moment, or, worse, another run aground, most certainly the bag would have been *nil*. Missfires are now of rare occurrence with well-designed modern punt-guns, but with muzzle-loaders they were, generally speaking, frequent, and cruelly disheartening also.

Shooting with a swivel-gun from the bows of a rowing and sailing-boat gives the best returns if the fowl are taken on the wing. Sitting shots with big guns from row-boats, if close ones, prove few birds and dead kills. This may be seen when we think of the height (mostly three feet) above water-level at which the gun is laid on a boat, which, though it cannot be obviated, is too high to kill many fowl sitting on water, as firing a shot from such a height plunges the shot at any distance within good killing range. Fowl shot sitting on water with a punt-gun fired from the bows of a row-boat will be struck on the head and back. Any shot which is not going directly to the fowl will dive and do no harm ; that is to say, none of the shot which fails to strike fowl directly will ricochet or glance off the water and kill others, but will be driven uselessly into or under the water. A punt-gun cannot be mounted low on a sailing or rowing-boat, and therefore cannot be expected to shoot well, i.e. good numbers of fowl at a discharge, unless, as we have said, the shots are invariably taken as flying ones.

Our remarks are here drawn out to emphasise that it is useless to fire sitting shot after sitting shot at birds with a duck-gun mounted on a row-boat, in the hope that you will some day shoot as many fowl as though the gun had been

AFTER A SHOT

RETURNING FROM AN OUTING

fired from a punt. The gunner in a punt shoots along and over his birds, and if these latter are massed in a huge pack on the water nearly every pellet tells. It is only reasonable to think that punt-guns, like all other shot-throwing weapons, kill most fowl when set low. Of course, as we have pointed out, there is a limit to low setting, on accouut of the trajectory of the missiles, or, in other words, a suitable height wherefrom the correct elevation can be given the gun so as to counteract gravitation acting on the shot charge.

The benefit found in the killing of a large number of birds by firing a gun set low, can be experimentally exemplified by trying an ordinary shoulder, or what is called by puntsmen a "hand," gun at birds (paper or cardboard ones) from the shoulder, and then from a low-set stand. The gun in the latter position will hit three times as many birds as when fired from the shoulder, and perhaps more, if the birds are placed on water. We would remind our readers that our remarks are from sheer experience, and not from conjecture or theory, as may perhaps be thought by those in doubt. Always kneel to fire a large shoulder gun at sitting fowl. When discharging a punt-gun at sitting birds, always prefer to be a little over (and, if the distance is great, a lot over), rather than under or dead on the mark. Ducks jump when they see the smoke, if they are on the alert, and so quickly do they spring high into the air that often they are well clear of the shot before it reaches anywhere near them. Although good old black powder shoots hard and strong (and it is all we have for our large fowling-pieces), it can only be termed slow. when compared with many of our modern nitros. The shot from a punt-gun takes fully three times as long to reach a mark a hundred yards away as the shot from a nitro 12-bore does to reach an object fifty yards from the gun.

CHAPTER XIII

GUNNING-PUNT CONSTRUCTION

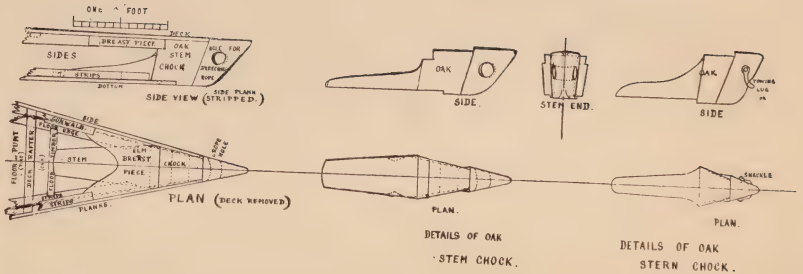
Ordinary boat-builders know little about the construction of gunning-punts. With the exception of a few specialists in the small boat-building line who have studied and carried out the building of gunning-punts, there are no professional boat-builders able to construct such craft. It is, therefore, very desirable that the punt-gunner should learn the various details necessary for the construction of his punt, unless he is sufficiently wealthy to submit his requirements to a specialist in the business, who will probably demand a high price for his skill.

Equally important is it to have the punt made as safe as the gun, for in the failure of either the result might be serious. Gunning-punts must be reasonably light and especially strong, requirements usually disregarded by ordinary boat-builders. Boat-builders who are desired to construct a gunning-punt are too much inclined to ignore their instructors (the wildfowlers), on the ground that they are being taught their trade, and cause dissatisfaction by proceeding on their own lines. Unless a boat-builder can be persuaded to carry out the instructions of his customer, it is better to engage a good joiner who will pay attention to what is required.

The most suitable wood for gunning-punts is yellow pine. This material can be got in suitable planks at a varying cost, according to lengths and widths. The cost of yellow pine boards to build a large double punt, will be greater than that for a single punt in the proportion of so much per square foot,

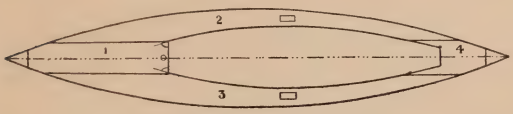
because in the former case special lengths not usually stocked are necessary, whereas single punts can be made from boards of common sizes. It may be noted that a single punt can be built for very much less than a large double punt.

The bottom planks of the punt are the first boards to be assembled. A single punt may have one sound plank only in this part, and by this plan joints may be saved. The planks are jointed by half lapping, which permits of light caulking at both sides. A tonge and grove is unsuitable, as the tonge will be sure to break off when the punt has been in use for some time. When the bottom planks are fitted (three in a large punt), they must be given their requisite "kammel" and "spring." Kammel is the slight round across the bottom, and spring is the same thing lengthwise. A large double punt should have 3 in. spring and 1½ in. kammel on a bottom ¾ in. yellow pine. This is essential in making a punt workable when aground. "Spring" is secured by fixing the planks down to a strong wooden floor. The kammel is gained by screwing down several of the floor timbers which have been given the necessary round. The floor timbers in a double punt should be made of oak 1¼ in. wide and placed 16 in. apart, their ends reaching to 3 in. from the sides. Through rivets in the floor timbers are to be substituted later for the screws (see Fig 1). The bottom is now ready to receive the stem and stern chocks. These are made out of solid English oak (per sketches), all planks butting into them. The stem and stern pieces along with the centre plank of the bottom are the most important parts in a gunning-punt, since they take the main strain of the punt-gun's recoil. The bottom must now be cut to its proper sweep. Care should be exercised here in cutting the bevel, which takes the side strake at its proper flare. To assist this a line may be scribed, and the gun-beam attached by its under knees in their respective positions, and also by some of the knees which are to secure the sides. These, likewise, assist in hold-



Stern and Stem Construction of Rope Recoil Gunning-Punt

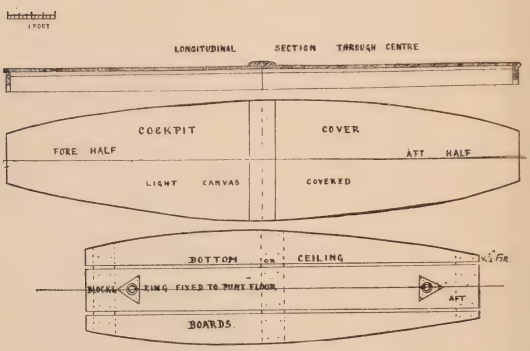
ing the side strakes when being bent to the punt. The sides of the large punt, although measuring only 7 in. in width when finished, must be at least 10 in. wide at first to enable the builder to sweep and bend them. After bending and fixing them, the superfluous edges can easily be cut off. The sides of the largest punts need be no thicker when finished than $\frac{3}{8}$ in. They should extend from stem to stern in complete lengths, i.e. without a joint. Steaming or soaking the side planks with water before bending is an advantage. The knees (cut to the grain of the wood from selected elm) are placed in large punts 16 in. apart, and their length is determined by their position in the boat. They should be cut and finished



Plan showing Decks fitted in Four Parts.

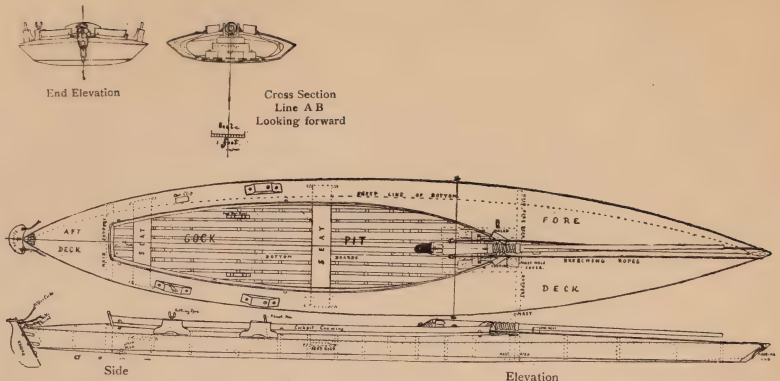
together in pairs, and fixed directly opposite each other. The floor timbers must be the same width as the knees. The floor timbers are fixed in position between the knees. All knees fixing the sides to the bottom assembled, the deck rafters (oak) and side deck knees are next to be fitted. Thus far the boat is ready to receive the decks. These should be screwed on in four parts, comprising the side deck pieces, and one fore and aft respectively. Half-inch pine simply butt-jointed, is sufficient for the decks, but let much extend over the sides so that a thin gunwaling strip may be run underneath to form a beading, and make the outer deck edge watertight. See sectional diagram. The cockpit coaming strengthening strips of half-round wood are next bent and fixed. These support the cockpit coaming with sufficient

strength to dispense with knees, even metal ones. Before finishing the cockpit edges and fixing the gunwale strip, a light calico laid down with white lead and gold size, materially assists in waterproofing the decks. A thin copper plate covering the stem to protect it from the flashes of the gun, is indispensable. Some protection against ice in the form of thin wood or copper may be fixed on the sides some 3 ft. or 4 ft.



Bottom Boards and Cover for Cockpit of Double Punt

from the stem. The arranging of removable coamings, the fixing of the rowing and setting spurs, and such minor, though important details, form the finishing touches to the boat. The rivets, nails, washers, and screws should be copper or brass. Iron soon rusts. Ceiling boards for the gunners to lie on, and a cover for the cockpit when the punt is not in use, complete the punt. Before painting, the bottom joints should be lightly caulked with spun yarn and run in with lead paint, allowing several days for the paint to set. Gunning-punts are usually



End Elevation

Cross Section
Line A B
Looking forward

Double-handed Gunning-Punt

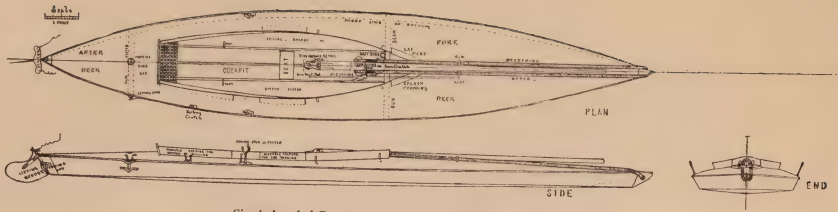
painted with red-lead inside and on the outside of the bottom, and white elsewhere. The white soon gets dirty, and becomes of a suitable colour for working after fowl.

The question of recoil gear for the gun is one which should have had previous consideration. In all cases elevating gear, which will enable the gunner to raise or lower his gun bodily (this is not lifting or depressing the muzzle), should be fitted, and if a recoil spring is employed it is wise and safe to have in addition a stout rope breeching. The elevating gear in a properly constructed punt can always be fitted after the punt is completed. This gear is fixed through the gun-beam.

Although all amateur gunning-punts are built on the same lines, a wide difference exists between the single and double-handed types as regards sizes and thicknesses of wood, etc. As I have not minutely referred to the various sizes, I here append detailed specifications for them. My remarks here in no way refer to professional punts, as these are in general an intermingling, according to locality, of small craft ranging from clinker-built unsafe gondolas, to smart, narrow, skiff-like boats, much resembling the recognised single amateur gunning-punts.

Specification of Large Double-handed Gunning-Punt to carry Gun of 180 lb. Weight.

Length	22 ft. 4 in.
Length on bottom	21 ft.
Beam over decks	4 ft. 2 in.
Width across bottom (widest part)	3 ft. 7 in.
Depth of sides (vertical at widest part)	6 in.
Height at stem	6½ in.
Height at stern	7½ in.
Width of cockpit (widest part)	2 ft. 8 in.
Length of cockpit	12 ft. 6 in.
Length of afterdeck	3 ft. 3 in.
Round on foredeck at gun-beam	4½ in.
Height from floor to top of gun-beam	11½ in.
Height from floor to main deck rafter aft	9 in.
Kammel on bottom	1½ in.
Spring on bottom	3 in.



Single-handed Gunning-Punt for Side Paddling, Sculling, or Setting to Fowl.

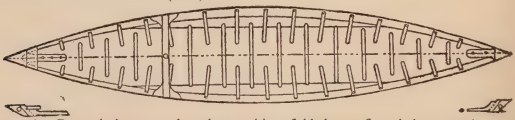
Thickness of knees (elm) and floor timbers (oak)	$1\frac{1}{4}$ in., 16 in. apart.
Thickness of bottom planks	$\frac{3}{4}$ in. yellow pine.
Thickness of side planks	$\frac{5}{8}$ in. yellow pine.
Thickness of deck planks	$\frac{1}{2}$ in. yellow pine.
Thickness of coaming	$\frac{9}{16}$ in. yellow pine.

Deck rafters, 2 in. by $1\frac{1}{2}$ in. (oak), 16 in. apart.
Gun-beam, 4 in. by 2 in. (oak).
Stem and stern chocks (oak).

SPECIFICATION OF SINGLE-HANDED GUNNING-PUNT.

Length	18 ft.
Length of bottom	16 ft. 9 in.
Beam over decks	3 ft.
Width across both (widest part)	2 ft. 2 in.
Depth of sides (vertical at widest part)	6 in.
Height at stem	$6\frac{1}{2}$ in.
Height at stern	7 in.
Width of cockpit (widest part)	1 ft. 8 in.
Length of cockpit	8 ft. 3 in.
Length of afterdeck	2 ft. 9 in.
Round on foredeck at gun-beam	5 in.
Height from floor to top of gun-beam	13 in.
Height from floor to main deck rafter aft	9 in.
Kammel on bottom	$1\frac{1}{4}$ in.
Spring on bottom	$2\frac{1}{2}$ in.
Thickness of knees (elm) and floor timbers (oak), 1 in., 15 in. apart.	
Thickness of bottom planks	$\frac{5}{8}$ in. yellow pine.
Thickness of side planks	$\frac{1}{2}$ in. yellow pine.
Thickness of deck planks	$\frac{7}{16}$ in. yellow pine.
Thickness of coaming planks	$\frac{1}{2}$ in. yellow pine.

Deck rafters $1\frac{1}{2}$ in. by 1 in. (oak), 15 in. apart.
Gun-beam $3\frac{1}{2}$ in. by $1\frac{1}{8}$ in. (oak).
Stem and stern chocks (oak).



Gunning-Punt: decks removed to show position of side knees, floor timbers, gun-beam, and stem and stern chocks

Other details may be gleaned from the drawings. To construct a punt properly the services of a skilled woodworker and his tools are indispensable.

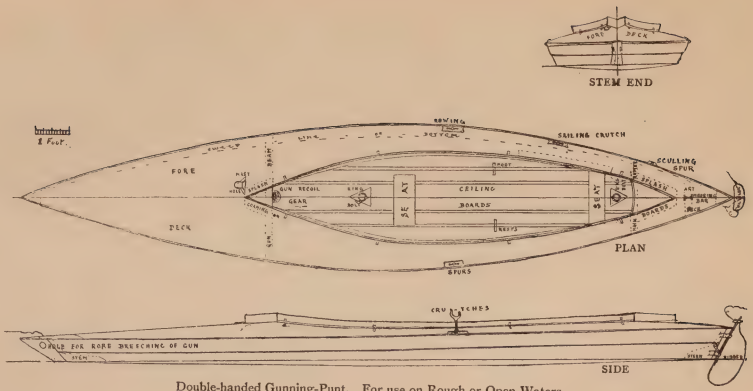
CHAPTER XIV

VARIOUS KINDS OF GUNNING-PUNTS

So varied are the types of fowling-punts met with along our coasts that to attempt to describe each would not only require more space than is here allotted to this subject, but would, I fear, be too complicated to be of any practical value. I think, therefore, it will be sufficient if I speak generally, making simple reference to the more widely differing crafts than to those closely, though not exactly, alike. To the person who is not conversant in punt-gunning, all the many kinds of shooting crafts are known to him as duck-punts or shooting-punts, whichever may be the general term of his district. As I have before mentioned, although we find a great variety of shooting-punts, they all more or less kill fowl. It is an undoubted fact that a punt (even a double) cannot be constructed to suit all quarters, or all purposes—i.e. one which would kill fowl in shallows and compete with equal success against a punt specially built for rough, open waters. It should not require much reasoning to see this. For each particular purpose we find punts specially designed. A happy medium is found in a general punt—one that will suit most purposes, even if we cannot manage it for all. Places—I mean fowling grounds—differ considerably in many respects, and to these we should pay close attention, and try to construct our punt, or have one constructed, in a manner most suitable to its surroundings.

Under certain conditions, a punt not at all built for open waters will, in a calm, sometimes steal out to sea, and do well, even where one built for open sea and "lipper" would on such days not do so well. This is, of course, an exceptional instance in punt-shooting, and should not be calculated of any consequence to base a working upon. It is, no doubt, as I have previously hinted, a very difficult task to design a punt that will have success at even one place under every state or condition likely to occur during what may legitimately be called fowling or punting weather. Therefore it is essential, practically speaking, that the fowler himself should make his own choice of a punt most suitable, after investigating and summing up the features of the locality he intends to work. We all know that, before one can become a good wildfowler, a long, practical apprenticeship must be served, and even then it does not always follow that success is sure to arrive finally. At some places, punters seldom, if ever, secure a shot on mud-banks or sand-bars, all their fowl being met with at certain times of the tide on the water; whereas at other quarters the reverse takes place. Some spots afford both land and water shots, and so on. Of course, at all places, some times are better than others for negotiating wildfowl.

In our sketch accompanying this chapter I give a punt for rough-water shooting—the open sea. When I make the statement "rough water" I mean such as any reasonable person might expect a punt to live in. The drawing is to scale, and the chief dimensions are hinted upon; thus it will not be necessary to repeat them. The punt in question is designed for deep-water shooting, and has a draught of about 7 in. aft when loaded with 4 cwt. Although her beam is wide and draught deep, she will appear low on the water. This punt is to substitute open boats for wildfowl shooting with swivel-guns. An open boat with swivel-gun in the bows will seldom get near fowl sufficiently close to come to terms with them. The usual run



Double-handed Gunning-Punt. For use on Rough or Open Waters

of shots from such a craft are, nine times out of ten, very long ones, owing mainly to the greater "freeboard" of a boat compared with that of even a very high punt. The special features of the punt depicted are that it is a seaworthy craft, low on the water compared to an open boat, is roomy inboard, has a high round on decks, and is a punt that can stand a lot of weather. It may be built with a less than 4 ft. 3 in. beam, if speed is required, so as to compete with others; but in no case should the beam of a sea-punt be less than 3 ft. 9 in. In days gone by I used a punt similar to the one here figured, for open work, and can confidently say that she was as safe a craft as ever put off, for her size. When it was too rough to launch this punt, there were no open boats her length that dare venture out, and this is saying a lot for a punt. Shooting sea-ducks in competition with open boats, she invariably came off top score. This was mainly due to her size compared with a boat. Of course, she was more readily managed, picking her birds up much quicker than possible with a heavy boat, to say nothing of many other minor advantages. The punt I am here referring to, it is only fair to note, was worse than useless in shallows, though this was a class of fowling she was never intended to follow. The sea-punt draws too much water by twice for shallows. Our illustration of a double punt shows a punt for more general purposes; yet, when special circumstances are to be considered, she might need some modification as the conditions require.

Thus it is that every punter should really, to a certain extent, be his own designer, according to the purposes the punt is to be used for; and I add that one should not hesitate to devise or alter to his own taste or ideas anything he feels sure will be found beneficial. However, I trust that from the punts herewith described the intending punt-gunner may find little difficulty in selecting one that will answer his purpose, or which with some slight alterations may eventually suit him.

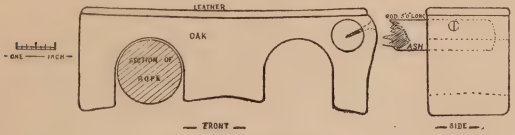
The double punt for open sea should be built very strongly (regardless of weight), the sides, for preference, clinker built—i.e. of two planks, the upper one overlapping the lower on each side. If she will never under any circumstances be wanted for shallow water, she may have a square keel piece and be clinker built on bottom with a considerable kammel —say 3 in.—and a similar amount of spring fore and aft. These modifications will tend to make the punt more seaworthy, and not in any way deteriorate her actions or success as a fowling craft. I should advise that the sea-punt be built by a boat-builder from design herewith, if the intending punt-shooter has no practical knowledge of punt or boat-building. Special instructions will have to be given the boat-builder who undertakes the construction of your punt, unless he is a specialist on gunning-punts. Boat-builders who have a knowledge of the construction of gunning-punts are few and far between. As a rule, they know little about the subject at all. I know of two firms of boat-builders, however, who make a speciality of gunning-punts. The punts they turn out are really tip-top, and surpass anything I have seen constructed by amateurs, especially when reference is made to the lines of their craft. This is possibly due to the fact that the many expensive tools comprising a skilled punt and boat-builder's kit are employed in the building of these punts in such a practical way that perfection is well-nigh certain. Amateurs who are not constantly at this work, and who do not possess the necessary tools for fine work, cannot reasonably be expected to attain such perfection. Perhaps it would be well here to note that I have not stated the foregoing simply from mere caprice, but after careful and critical examination of several punts built by many of the most enthusiastic and experienced punt-shooters in the British Isles, including those of a few well-known gentlemen of fame in the shooting world. I should also state that, although most of these punts were no doubt safe and trustworthy shooting

craft, they lacked the beautiful contour found in punts built by practical gunning-punt builders.

Well may these professionally-built punts, as we call them, be perfect, or nearly so (not to make too much of them), when the price for a shallow double, made of yellow pine bottom, sides and deck, elm knees, oak stem and stern, ash coaming, oak floor timbers, and deck rafters, copper fastened, rightly made (this says a lot), and complete with fir cockpit cover, oars, and other appurtenances, is between £40 and £50. This seems a lot of money for a punt. No doubt a double punt could be built for much less, yet the above sum is not by any means above that which could readily be absorbed in cost of material and labour necessary to produce a good punt. All the timber employed in the making of a gunning-punt must be sound, good, and of special sizes. Oftentimes a fair amount of money is spent in finding such material. This is, of course, expense to no account; yet, nevertheless, it adds to the total cost. Then, again, a good deal of waste has to be paid for in securing the right size of planks, etc., this meaning another extra cost of what really never goes into the punt itself. Many punt-gunners I am personally acquainted with could never believe a punt to be worth the amount asked until they became desirous of possessing one of their own building. I must confess that at one time this was also my own case. Except for the clinker-built sea-punt, and in lieu of placing your order with a punt specialist, I should advise that a good joiner be engaged to build your punt, under the personal supervision of one versed theoretically, if nothing else, in the construction of gunning-punts. For ordinary fowling-punt construction, and disregarding professional punt-builders, it might not be going too far to say that a really good joiner, under a punter's eye, will make a far better gunning-punt than an ordinary boat-builder ignorant of punt-gunning, left to his own resources, even with a drawing. There are so many small

details of importance in a gunning-punt that ordinary boat-builders do not care to undertake the job of building one; and, moreover, they detest being dictated to in an art in which they profess to be practitioners, though, unfortunately, they profess more than they can practise.

The drawing of a sea-punt shown on page 275 is without a gun aboard. I leave this out, allowing for special selection by the sea-punter himself, after discussing some of the many devices invented for taking up the recoil of big guns. Although, personally, I am a great advocate of the old-fashioned elevating crutch, stout rope breeching from hole in stem of punt to trunnions on gun, and movable



Sliding Rest for Punt-Gun

rest, I quite think that if any of the ingenious contrivances invented for quickly aligning the big gun, and taking up the recoil, can claim to supersede the older style, it would be an admirable plan to test them by taking shots at wary fowl on rough water from a sea-punt. Sea-punts which are clinker-built will "rattle" on rippling water. In a choppy sea of "small lumps," as some fishermen term them, the sea-punt, if head on to such a sea, will "flop" or "spank" the water with her bows meanwhile, making no little noise. Such a position for a shallow punt, especially with a heavy gun aboard, would be very dangerous, as with her sharp and shallow bow she would be likely to plunge, or even dive. The noise made by a sea-

punt as she moves through the water will not alarm the quarry as much as one might expect, owing chiefly to the fact that when the punt makes most noise the weather is such that the sound is soon lost, or does not travel far, on account of surrounding noises made by the rippling water or the breakers rumbling on the shore. It is always wise to take a little sand ballast when shooting from a sea-punt.

It is not advisable to carry a punt-gun of more than 150 lb. (lighter for preference) for use in a sea-punt, as dead weight makes the punt labour in a sea, where danger might come suddenly upon you. The gun should be mounted so that her greater weight bears well into the cockpit. This will make the punt less liable to dive, and, therefore, ride clear of many a sea that might otherwise swamp her.

Before going on to describe the general kinds of small craft used in wildfowl-shooting afloat, we should remark on the different types of ordinary duck-punts to be found along our coasts. We have referred in full detail to single and double-handed punts as used by amateurs, and the varieties designed for special purposes. It is more particularly with respect to the professional gunning-punts we wish to speak. Professional influence over amateurs of local practice has had something to do with the many adverse opinions of punters in general. No doubt the punts used at a certain quarter by professional gunners suit the locality ; but these craft seem to be built for these men more on the lines of "the good old has been," rather than any points of personal originality, which we feel sure could be produced if these fellows, with their vast experience, were to try.

Taking matters as a whole, originality in anything is lacking with most of our local coast fowlers. They seem to work more on the copy and pattern principle. This may be all in order, and not a bad way of working, but it keeps ideas from becoming general. What was used a hundred years ago, as

DOUBLE PUNT WITH SWIVEL-GUN MOUNTED

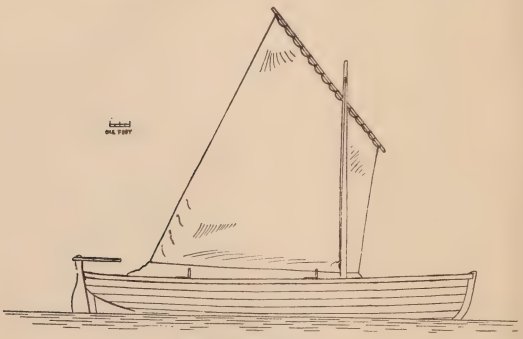
A PROFESSIONAL PUNTER OF THE HUMBER DISTRICT

far as lines are concerned, is still to be seen produced in new work—bad points along with the good. And it is at the bad points we are most astonished. Nay, they stick to what has served one, saying, "If it did for him, it will for me"; and there the matter ends. We cannot make reference to all the kinds of punts to be found around the British coasts, but we refer to a few as instances. The qualifications of each type of punt cannot be discussed, nor its suitability remarked upon, beyond stating that they all shoot wildfowl, and their variation of type is wider than the natural differences of wild-fowling quarters.

The punts of the old punt-shooters of the Greatham Marshes (now reclaimed), on the north side of the Tees mouth, were invariably half-decked, medium length, single over-side paddling craft. This type still exists on the Tees, though real punting is a thing of the past there now. At the Humber mouth, and on the north-east and east coasts of Lincolnshire, a punt resembling a tiny gondola is used by the professional shooters. These punts have no deck—simply a beam to rest the gun on. On the higher reaches of the Humber the punts have a fore and aft deck, and sometimes side decks. On the Wash is seen a long, narrow kind of punt with deck and cockpit. This is known as the Lynn punt. In Ireland, peculiar shooting craft are to be seen at Wexford. These are known as floats, and the gunners are floatmen. These punts are very much like those to be seen in Lincolnshire, having no deck, but differing by carrying the gun farther forward and projecting a greater length over the stem of the boat. Some of the craft mentioned are good at their work, but most of them are bad sea-boats. They are all fickle, and need practice to handle.

When fowling open and dangerous waters from the shore, it is wise to have in attendance a following-boat. This should be particularly heeded if the grounds are new to the fowlers.

A boat for this purpose alone need not be included in the wildfowler's outfit. One can generally be hired from some local fisherman or boatman. A second-hand boat which would serve as a following-boat can often be picked up cheap. They can be made of use in many ways to the fowler. A trip may be taken in such a craft out on the open water to survey the whereabouts of birds. A swivel-gun could be mounted in the bow. Shots with heavy shoulder guns might also be obtained.



Sail Plan of Following Boat

As a following-boat, one wants a craft which does not draw much water—light, and easily handled. Ordinary cobles, as seen on the coast, though good sea-boats, are rather too large for following-boats. A craft, 18 ft. to 20 ft. long, with 6 ft. beam, is about what is required. She should be fitted with a pole-mast and sail, the mast to step and unstep. The sail to be recommended is a lug-sail. We give a sail plan of the boat. Shots may be obtained by sailing down-wind on to fowl. Unless one of the party is a practical sailor, engage

a skilled man to do the sailing, or a mishap will very likely occur, and, just before taking a shot, the boat must be brought skilfully round half to windward; and, as the fowl meanwhile are rising head to wind, you gain a few yards on them.

Other craft requisitioned by the wildfowler are the gondola and "sneak-boat." They are both used for cruising about the shallows in hope of a shot with a big shoulder gun, such as a single 4-bore. The gondola is generally used by wildfowlers on the tide. The sneak-boat (which is a miniature gondola, but decked round a cockpit, so that brushwood, etc., may be erected as a screen for the shooter) is more generally used on fresh water, such as flooded lands, carrs, meres, lakes, etc. The gondola may be made of any size, ranging from 13 ft. to 24 ft. long, and a corresponding beam of from 3 ft. to 4 ft. to suit the number of gunners she is to carry.

As our subject refers to swivel-gun shooting, and the use of gondolas is confined to shoulder guns, we cannot go beyond the mere dimensions of a gondola and a few hints on them. We give the following dimensions for the gondola. She may be reduced 6 ft. in length for two shooters, 9 ft. for one shooter, but in no case where she is to be used on the tide should her length be less than 13 ft. For shooting she will be best made sharp at both ends, then she may be shoved either way when in narrow places, not square-sterned, as in the usual type of gondola.

Gondola to carry three shooters:—Length over all, 24 ft.; length on bottom, 22 ft.; beam over gunwale, amidships, 4 ft. 9 in.; width over bottom, amidships, 3 ft. 3 in.; height at stem, 2 ft.; height at stern, 1 ft. 10 in.; height of sides, amidships, 1 ft. 9 in.; spring fore and aft on bottom, 5 in.; kammel athwartships, $1\frac{1}{2}$ in.; three seats, 8 in. by $1\frac{1}{8}$ in.; floor timbers of oak, 3 in. by $1\frac{1}{4}$ in.; floor planks, 1 in. thick. Knees of American elm; bottom of yellow pine; sides clinker-built of $\frac{1}{2}$ in. yellow pine.

The sneak-boat may be made on the same lines as above for still water, and as small as 11 ft. long, decked over with quarter-inch-thick deck, the latter merely to carry a screen of grasses, reeds, or twigs to conceal the gunner. The large gondola can be rowed with two pairs of oars, and poled or sculled by means of a crutch fixed on the side near the stern, in the same manner as a punt.

We might refer to the old-fashioned and almost out-of-date mud-boats or mud-punts; but to do so would entail space beyond the limits of our subject. It is beyond our scope to state further than that such boats are in use even up to the present day (though not, as a rule, with much success, as birds nowadays seem to be too wary to be taken with them), and that they are simply flat boards with some slight side protection, and are "slid" over the mud to birds, by their occupants lying flat on the chest.

CHAPTER XV

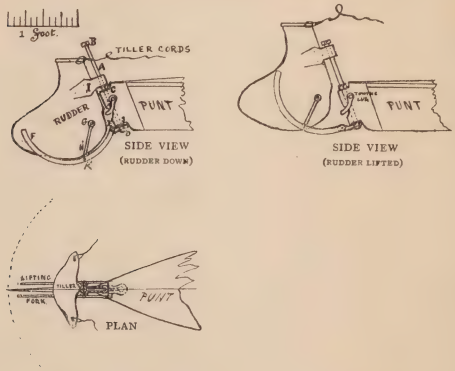
GUNNING-PUNT RUDDERS

The question of a rudder in a gunning-punt is one which must be left for the intending punter himself to decide ; also whether it shall be of the ordinary boat type or of such a design that it will lift up on the punt when running aground. It is with this latter that we here mean to make particular reference. The ordinary rudder is simple enough. Lifting rudders of various kinds are numerous—some answering their purpose fairly well, others being worse than useless.

The essential properties of a good lifting rudder should be such that when the punt runs sharply aground, or proceeds forward or backward in a shallow, the rudder will readily lift, immediately lowering when afloat in sufficient water for it to do so. I have seen rudders with a simple pin arrangement, working in the stern chock, lift well when running forward ; but should the punt be shoved backwards, the rudder would break. Such a rudder is a nuisance, because unshipping it is a necessity when shallow water is reached. An ordinary rudder and a careful watch for shallows would undoubtedly be much better.

In our sketch we give details of a good lifting rudder. It has all the advantages necessary, and, from personal use and tests, answers them remarkably well. Running over a shoal it rises freely, nothing it may meet being too abrupt for it to rise over, and it quickly falls when free of ground. In shoving astern it works equally well, and is really efficient in every

way as a lifting rudder for flat-bottomed craft. The idea is entirely original on my part. The cost of manufacture of such a rudder would be a trifle more than most punters care to give for any rudder; yet it is better to have an article one can place confidence in than one which does not answer the purpose. It is well-nigh impossible to have a good lifting



Details of Lifting Rudder for Gunning-punt

rudder with very few parts, as there are so many things necessary for it to do.

I have marked the side view sketch so that my description may be better understood. A is a Muntz's metal rod bolt, with a cup-head at D. The neck of the bolt is turned to fit hole in E. To make my description as simple as possible, I will give a few sizes. The neck of the bolt is $\frac{3}{4}$ in. diameter. The part of bolt passing through stern chock A is turned down to $\frac{1}{2}$ in., and fitted with collar at B with a pin through same. It is a

"tough metal" (i.e. a special brass alloy) casting, bored a good fit for A. It will wear better if steel-bushed—I mean "mild" steel; it is not necessary to "skin" or "case"-harden the steel. F is one prong of the brass fork hinged on to E, so as to work vertically. E works about the neck of the rod-bolt, and allows rudder and all attached to swing horizontally. G is a through pin; H is one of the two connecting rods. The rods link the fork to rudder at K and G. They are kept on the link-pins by collars with fitted taper-pins through. The fork may be of gun-metal or yellow brass, and the other fittings of similar material. I think there should now be little difficulty in following the sketch. Its working may be readily understood by reference to view showing rudder lifted. It is not absolutely necessary that the parts be made of brass; iron will answer; yet if trouble is taken to make a rudder of this description, let the material be of the right kind, so that it may last a long time. Of course it should be needless for me to state that the work and fitting must be good or the rudder will not work satisfactorily. Care should be taken when marking off, to note the exact radius of the fork and position of connecting rods. To describe how the actual fitting of the job is done would, I fear, be out of the present subject; yet I trust that I may have made the matter sufficiently clear for almost anyone to understand it. If the rudder is to be unshipped at any time, all one has to do is to take off collar B, unscrew nut C, and withdraw the rod-bolt. Any small firm of engineers or brass-finishers would undertake to make the parts.

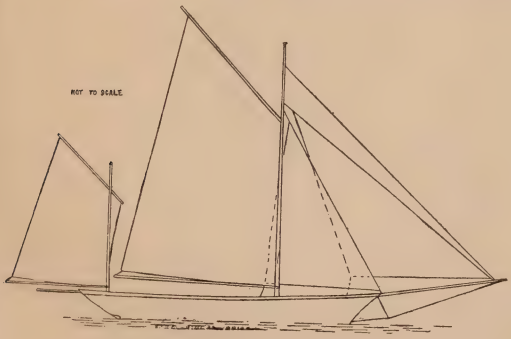
As the draught of the motor-punt is much more than of ordinary fowling-punts, the lift need only be about 3 in. The tiller and cords may be dispensed with, and a thin wire rope arrangement substituted for actuating the helm. Instead of a tiller, the rudder can be fitted with a semicircular rack, which can work upon a pinion cog-wheel (3 in. across the teeth) set parallel to the rudder's vertical movement, and keyed on to the spindle

carrying pulley wheel, to which the wire for steering is attached. The wires are led either over or under the side decks to small steering wheel on the driving-board in the cockpit, forward of midships. In the case of a motor-punt it is highly necessary that a lifting rudder be employed. One will not have then to bother about the rudder when running ashore or beaching the punt.

CHAPTER XVI

SAILING CRAFT AND MOTOR-PUNTS

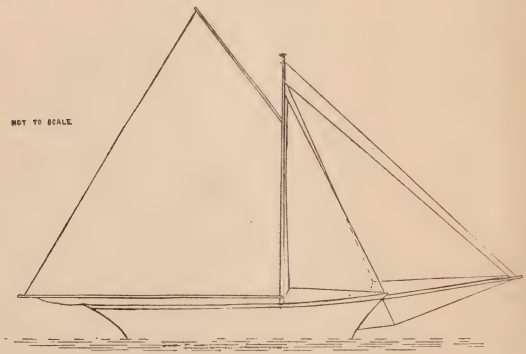
WHATEVER steam and other mechanical power may have done regarding the ousting of sailing vessels for cruising purposes, it still has to put aside the sailing craft for wildfowling. The chief drawback to a steam yacht is the probability of having to



Sail Plan of Yawl for Fishing and Shooting

run long distances for coal. Other items are extra cost of working a steam vessel for this sport, mechanical repairs, etc. If a steam vessel is selected, it should be one that will not draw too much water and will "take ground" safely, whether hard or soft. Nothing to the tired fowler is more unpleasant than

to have to turn in to sleep on a vessel heeling over. The situation besides is also dangerous. Although, in the face of all argument, the steam vessel is admirable for a few days' trip to a certain wildfowling quarter, it is not to be compared with a sailing craft for lengthy cruises. Yachts which have to be propped up when aground are useless for wildfowling purposes. They would be a death-trap on a soft shore. Besides, with



Sail Plan of Cutter for Fishing and Shooting

deep keels, they do not permit the shooter to search up the channels and lie in the very haunts of the birds. For wildfowling the craft must have a shallow draught and lie to ground almost plump. As to the rig, the yawl rig is the most in favour for this work. The cutter may be faster, but for comfortable working the yawl is more suitable in our opinion. Really fast sailing is not a necessity when on a wildfowling cruise. However, we give a sail plan of both rigs. The size of a sailing vessel for a wildfowling expedition should be large enough to

carry two punts and a dinghy and a crew of six (including three shooters) comfortably. Her size should not be so large as to make her a craft unable to be manœuvred in fairly shallow water. About thirty tons, Y.M., is somewhere near the mark. Her cabins should not be numerous and small, as they often are, but as few and large as possible. A living and a sleeping cabin, with the fo'castle for the crew, are quite enough, and are likely to prove more comfortable than if twice the number and uselessly small. Articles which are not of absolute utility, such as pictures, etc., are best kept out of the cabins. A swing-table and folding chairs are indispensable. The shooter should strive to fit his craft with necessary articles only, and not the useless impedimenta too often seen aboard summer pleasure craft.

The rig of a yawl for wildfowling may be under-sparred or reduced somewhat. The topmast may be dispensed with. A plain pole mast suits best. Our sketch shows our choice of both rigs. These slight diversions assist ready and handy working. So that the yacht will carry the punts, she should be flush-decked, without cockpit or booby-hatch. Punts are not recommended to be carried slung in davits. An endless amount could be written about floating craft, and whether further discussion would assist, we leave to others to decide, and trust that we have fringed (as our subject will only permit) the items which are of most importance and interest to the fowler projecting a trip. Details of fitting up the cabins with useful articles, like furnishing the hut ashore, must be left to personal ideas; but such things as an alarum clock, thermometer, barometer, compass, etc., should on no account be omitted.

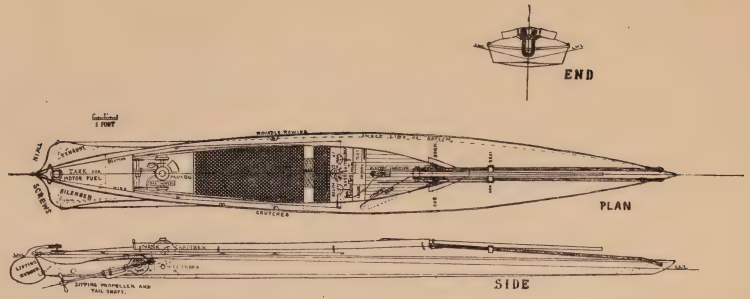
As to craft propelled by motors, the same drawback occurs as with steam vessels. Fuel, be it coal, petrol, or paraffin, cannot be carried in large quantities aboard a ship which has to be as small as possible in keeping with her require-

ments. If this were not of importance the difficulty would be an easy one to overcome. For trips lasting a few days, vessels fitted with internal combustion engines, like petrol and paraffin motors, are speedy and handy. A motor in a sailing craft, and used as an auxiliary in cases of emergency, would, no doubt, be found at times of valuable assistance. Motor craft of sufficient size to make a wildfowl cruiser, cost a lot of money—a very great deal more than sailing boats. This item is one which, with most shooters, keeps the motor out of reach, and, though it possesses the advantages of time-saving, these are not of so very much account to the wildfowler. Nothing is done in a lightning-flash manner in true wildfowling. Tides and other matters prevent this. Therefore, the learned fowler works composedly and, apparently, slow. There is no reason for hurry. Plenty of time and there (the right place) at the moment should be the wildfowl shooter's aim.

Failing a smart yacht, an old smack rigged out for your purpose is not a bad plan. When purchasing or hiring a second-hand ship of this kind see that it is sound; or, better still, have expert opinion; for the weather she may have to stand, and the bumping aground or laying up in some hard creeks, may soon knock her to pieces if very old and leaky. In an ordinary way smacks and wildfowling cruisers are not used in the same manner.

Lastly, but not of least importance, carry a chain and anchor large and strong—beyond doubt of breaking.

In dealing with the subject of a motor-punt, we must first emphasise that up to the present we are yet unable to construct such an article which is absolutely suitable or perfectly adaptable for all purposes of wildfowl shooting. There are so many drawbacks to be contended with in installing motor power to fowling craft, that this cannot be wondered at. However, there is only one course, and that is to persevere



Gunning-Punt designed to carry 120-lb. Gun, Heavy Man, and 4 h.p. to 6 h.p. Petrol or Oil Motor

towards perfection, by experiment and practice. Some punt-gunners say it is impossible to propel gunning-punts by mechanical power so as to meet all the requirements and circumstances such craft are subjected to. Be this as it may, I have not the least hesitation in saying that the day is not far distant when we shall see the motor gunning-punts top of all, and the only ones which will be able to secure fowl. At present well-designed motor-punts far excel ordinary gunning-punts for deep-water shooting. What is now wanted is effective mechanical means of propelling the punt over shoals. This seems to be the great difficulty. For the moment I will leave this, and content myself to give some few remarks on the motor gunning-punt as it here affects us, allowing it to be not quite suitable for working shallows, as has been previously hinted, but more particularly for those persons who wish to have a craft which may suit both the purposes of a motor-boat and a gunning-punt.

Perhaps it might be well to say a little about the many difficulties to be overcome before the motor-punt can claim to equal the ordinary duck-punt for wildfowling. Noise of the motor is rather against it, but this, if reduced to a minimum by using smooth-running motors, and employing good silencer boxes, may be considered of little consequence, especially when a slight "lipper" is on the water, or where a quick run into birds can be taken. In the second place, draught is a very important item, not so much because the punt with a motor in it could not be made to draw, say, three inches, and equal an ordinary punt, but chiefly because it is necessary to have a moderate draught, so as to be able to propel in half-shallows, and thus have a motor-punt as near an ordinary one in its working as possible. Dipping propellers for deep water, and feathering ones for shallow, suggest the best solution to the problem, I think. These, of course, would require a complicated amount of mechanism to work them, though in

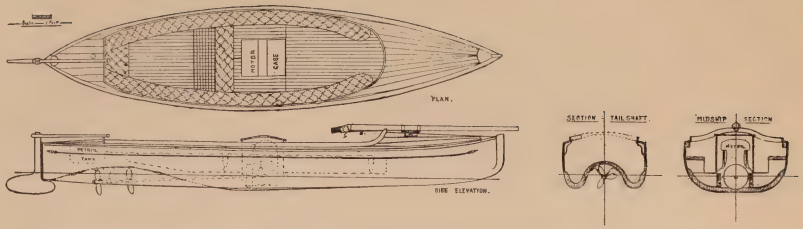
this, however, we lie within the range of possibility. In the case of running aground, the wings or blades of the feathering arms would have to be strong enough to push the punt. This would be impracticable on soft ooze, yet we must remember that poling in such a situation would also be of no avail.

In designing a motor-punt, beam must be chosen according to the description of work the punt is to be subject to. If for deep water and running aground, shipped with ordinary propeller or propellers, the punt must be long and narrow, so that sufficient draught may be secured. If for shallows, and fitted with dipping and feathering propellers, the punt must have greater beam. The beam should in no case be more than four feet. It would be well to carry out the sides aft of amidships to obtain required displacement. Wide punts are not considered good for wildfowl shooting. In our sketch we strike the happy medium in the requirements of a motor-punt. The dimensions of the punt in our sketch are such that it will carry two men, a big gun, as well as its motor, etc. One man, however, might work it better alone, as then it would not draw quite so much water. In building a motor-punt a great deal could be said about expense. There is no saying what expense one could go to for such an article. For all common purposes a motor-punt of yellow pine, and built in proportion to the instructions given for building ordinary punts, would meet all that is required. The only additions of note in the motor-punt should be a little more strength where the engine or engines are bedded, and extension boards from the after-deck over the sides to cover exhaust silencers. It is wise to have a sail and oars, as employed in an ordinary fowling-punt, for cases of emergency, such as breakdowns, etc.

The speed a motor-punt should be capable of is an important matter to those who intend becoming owners of such craft. Any speed ranging up to twelve miles an hour can be

obtained, even with such a heavily laden little boat as a motor gunning-punt. The question of speed, however, is entirely one of power in the craft, yet our aim should be to get the highest results for the least expenditure, or, in other words, the greatest efficiency as economically as possible. I think seven miles an hour a good, all-round speed, under favourable conditions, with five miles an hour against a slight breeze and tidal currents. The many ways in which a motor-punt is to be worked will depend much upon the design of the boat, and also the nature of the fowling ground. It would be useless to give anything but general advice upon the matter, so varied are the circumstances in punt-shooting. In the case of a deep-water punt, i.e. with a draught of, say, 8 in. or 9 in., the only method of obtaining land shots in shallows, is to get up speed, raise the propellers, and run in as near as possible. After this the punt can be worked as an ordinary one if not fitted with gear to propel her in shallows—of course, always allowing for the inconvenience of being unable to run in very shallow water, owing to draught. The chief claim of the up-to-date motor-punt is adaptability to deep-water shooting.

I give here a sketch and some details of a shallow-draught motor launch also. The chief work such a launch may be employed to fulfil is that of following a gunning-punt on large open waters where a punt may at any moment be subject to danger. Besides serving this purpose, the launch can be used for pleasure trips, fishing, and running on to fowl at sea. In the side view we show a large swivel-gun mounted on the fore-deck. Although this launch has been designed with as low a freeboard as is compatible with safety, it must not be supposed that she will be as good a craft for nearing wildfowl as a duck-punt, yet there is no doubt she will run closer to fowl than a sailing-boat of similar size. A mechanical-power craft of fair speed can generally be more successfully managed



Shallow-draught Motor Launch, for use on open waters, as Following Boat to Punt, Pleasure, and General Wildfowlers' Launch

on open water as a fowling-boat than a sailing craft when a large gun is aboard and fixed ready for firing. A trial will prove this to those who doubt. Our foregoing remarks, of course, do not refer to punts or other flat-bottomed craft. Sometimes wildfowl cannot be approached in the best and lowest of punts. At such times wary fowl will not usually permit a straw to float within gunshot of them. At other times ducks and other fowl will permit boats and other such craft to sail or run close past them, and on these occasions they will generally allow anything afloat to approach them, no matter how large—punts can come up as close as, or even closer than, may be desired. It is at such times that the motor launch or any other high-sided craft with a large gun aboard may look for success. Wildfowl are curious birds to understand. The countless hosts of wary widgeon and mallards which have been frequenting a large estuary for weeks without permitting a floatage of drift-ware to come nearer than a quarter of a mile will, for some unknown reason, pack up in companies on the sands and go fast asleep without a single sentinel. The punter should be afloat at these times to compensate himself for days of disappointment. We have known brent geese swim up on a rising tide in flocks ranging from a dozen to many thousands, and permit a punt without cover to come repeatedly within range (the large masses not quite so near), and take toll of their numbers. Three shots resulted in eighty-six brent. It might be added, however, that the duration of hard frost prevailing at the time was thought to be the reason of these brent behaving in what appeared to those personally interested in the matter, an unsuspectingly foolish manner.

The motor launch here figured is designed specially for the wildfowler. With a draught of nine inches she may be run in very shallow water. The general arrangement is a half-moon tunnel aft, in which rotate a pair of three-bladed propellers

(gun-metal) shipped on one tail shaft. The propellers should have blades of a fine pitch, i.e. the set of them must not be of much twist, for, being in a tunnel, they will simply churn if otherwise, and speed in the craft will be lost. We cannot specialise on the motor; suffice it to say that a good petrol engine of about 12 horse-power (two cylinders) of modern and up-to-date pattern, installed in the launch as per sketch, will, if in good order, develop enough power to propel the craft along at a speed somewhere between eight and ten knots per hour. If a large punt-gun is mounted on the fore-deck, the petrol tank will have to be fixed under the after-deck, though under the fore-deck is its correct place. For the wildfowler's motor launch a good silencer for the exhaust gases from the engine is an absolute necessity, if success is to attend the craft as a shooting boat.

The launch hull may be made of wood or steel—wood for preference. We would give some remarks on the building of the launch, and detail sheer and half-breadth plans for its construction, but fear that in doing so we may be trespassing upon another subject, and one not intended to be covered by the title of this book. Unlike gunning-punts, launches are everywhere upon the market. A practical launch-builder will be able to strike his own lines and produce the wildfowler's launch from the design herewith. I think all that may be found differing from ordinary launches in the design here figured, besides the tunnel arrangement, will be the low-set bow and freeboard, extra long fore-deck, narrow side-decks, and coaming to inboard quarters. This launch will be found a suitable one to make fairly long trips in from harbour; yet it is not of sufficient size to be of service as a coasting cruiser.

MUTE SWAN

Cygnus olor (*J. E. Gmelin*)

The Mute Swan is a more or less domesticated species in this country, although it is not improbable that in hard winters a few really wild examples visit the British Isles. It is an inhabitant of the Palæarctic region. The adults are white. It may be distinguished from the Hooper Swan by the black protuberance at the base of the upper mandible. The young are uniform greyish brown. Length about 60 in.

HOOPER SWAN

Cygnus musicus (*Bechstein*)

This swan is a common winter visitor to our islands. The adults are white. Immatures are ashy brown above, lighter below. Length 60 in.

BEWICK'S SWAN

Cygnus bewicki (*Yarrell*)

This species of swan is similar to the Hooper Swan, but may be distinguished by its smaller size and the shape of the yellow patch on the upper mandible. Length 48 in. It is a fairly common autumn and winter visitor to the British Islands.

LESSER SNOW GOOSE

Chen hyperboreus (*Pallas*)

This is a North American species breeding in Arctic regions and wandering south in winter. It is a rare abnormal

HEAD OF HOOPER SWAN

HEAD OF BEWICK'S SWAN

autumn migrant to the British Isles. It has occurred several times in Ireland, and small flocks were seen in Cumberland, Northumberland, and Yorkshire during the severe winter of 1890–1.

The adult is pure white, with black quills. The young have the upper plumage greyish, brownish grey on the back, and whitish on the under parts. Legs and feet pale slate colour; bill black. Length from 29 to 30 in.

GREY LAG GOOSE

Anser cinereus (*Meyer*)

Although about a century ago this bird used to nest in the fens of Cambridge and Lincolnshire, and the carrs of Yorkshire, it has long since ceased to do so, and it can now only be found breeding in the north of Scotland and in the Outer Hebrides. In winter it occurs on our coasts in company with other species of Geese, but it is by no means common, and the greater number pass on to the south, reappearing on their way north in spring. The food consists chiefly of grass and other green food, which it seeks on salt marshes near the sea by day, retiring to the shore to rest at night. It is the only Goose that breeds in our islands. Geese are strong fliers, and, being very cautious birds, extremely difficult to approach. In flight they usually assume a wedge-shaped formation. The note is a harsh "gaggle, gaggle," like that of our domestic Goose, which is supposed to have originated from this species.

There is some doubt as to the origin of the name Grey Lag, but it is now generally conceded to have been applied to this species because it lagged behind after the other Geese had gone to their breeding quarters in the north.

The adult is greyish brown on the upper parts and breast, the rest of the under parts being whitish grey with a few black feathers. The young are rather darker and lack the black feathers underneath. Length 34 in.; wing 17 in.

BEAN GOOSE

Anser segetum (*Gmelin*)

This species nests throughout Northern Europe and Asia. In Scotland, however, it is not so numerous as the other species. It inhabits the Northern Palæarctic region. In autumn it migrates to North-West Africa.

This bird feeds inland on grain and vegetation.

The bill is black, with an orange band across the centre and a *black* nail; the amount of orange on the bill varies, however, in individuals, and several forms have been differentiated, though the matter requires further confirmation before being finally accepted. The amount of orange in the bill may also vary, in some cases, during the life of a single individual. Legs, orange yellow. There is no bluish grey on the shoulder of the wing, as in the Grey Lag and Pink-footed. Length from 30 to 34 in.; wing 19 in.

PINK-FOOTED GOOSE

Anser brachyrhynchus (*Baillon*)

On the east of England and Scotland this species is very numerous during the winter, but in the south of England it does not often occur, and its appearance in Ireland is not yet authenticated. It breeds in Northern Europe, and is apparently the only Grey Goose breeding on Spitzbergen.

The bill is black, with pink across the centre and a black nail. Legs and feet also pink. This pink colour has sometimes a yellowish tinge, and so cannot be accepted as a definite character on which to diagnose this species. The wing, however, in the Pink-footed Goose is blue-grey, approaching that of the Grey Lag, and this, together with its smaller size, will distinguish it from the other species. Length from 28 to 29 in.; wing 17·5 in.

PINK-FOOTED GOOSE

WHITE-FRONTED GOOSE

Anser albifrons (*Scopoli*)

This Goose, whose chief breeding grounds are in Siberia, though it also nests across the whole of Northern Europe, migrates to this country in fair numbers every autumn and winter, but it is more abundant in the south and south-west than on the east coast, and is everywhere very local in its distribution.

It very closely resembles the Grey Lag Goose, but there is more white on the forehead; the bill is orange-yellow, with white nail, and the legs orange. Length about 27 in.; wing 16 in.

The young show no white at the base of the bill.

BRENT GOOSE

Bernicla brenta (*Brisson*)

This species is one of our most common Geese, and is found in enormous flocks round our coasts during the whole winter. It inhabits the west coast of Greenland and also the islands and northern coasts of Russia and Siberia. It feeds principally by day, and has a habit of wading about the mud-flats or in shallow water feeding on maritime vegetation. Its favourite food when with us is *Zostera marina*, a long grass which grows on certain parts of our mud-flats.

The whole plumage is chiefly black, except the tail-coverts, which are white, and a white patch on each side of the neck. The young are duller in colour, and show very little white on the neck spot. There are two races of Brent Geese, the dark-coloured and the white-bellied. Length from 22 to 23 in.; wing 13 in.

BERNACLE GOOSE

Bernicla leucopsis (*Beckstein*)

This Goose inhabits Arctic Europe, but is not uncommon in winter along the west coast of the United Kingdom as far south as Lancaster, as well as on the north coast of Ireland. Elsewhere in these islands it is decidedly rare. It feeds on grass pastures near the sea, invariably by night.

This species is commonly kept in captivity, when it breeds freely.

The crown of the head, neck, and upper breast are black; mantle grey, barred with black and white; forehead, cheeks, and chin white. Under parts greyish. Tail-coverts pure white. Length 27 in.; wing 16 in.

RED-BREASTED GOOSE

Bernicla ruficollis (*Pallas*)

Only one or two examples of this exceedingly rare autumn and winter migrant have been obtained in this country. It inhabits Northern Siberia, and during migration is met with in the extreme east of Europe.

The general colour above is black; the ear patches, throat, and breast chestnut; lores and belly white; chin black. Length from 20 to 22 in.; wing 14·5 in.

COMMON SHELD-DUCK

Tadorna cornuta (*Gmelin*)

This species is with us throughout the year. It breeds in burrows on sand dunes near our large rivers and the sea. The adults are handsome birds, their plumage being variegated blackish green, black, chestnut, and white. The young in first plumage are duller than the old birds. Length 24 to 25 in.

BRENT GOOSE

RUDDY SHELDRAKE

Tadorna casarca (*Linnæus*)

This bird is a rare irregular autumn and winter migrant to the British Isles. In summer it inhabits the southern Palæarctic region. Many of the examples of this species shot with us have been proved to be birds escaped from captivity.

The adult male has the upper back, mantle, scapulars, and the whole of the under parts, yellowish chestnut; ring round lower neck, quills, upper tail-coverts, and tail, black, with a greenish gloss. The adult female is similar to the male, but the neck ring is absent. The young in first plumage are somewhat similar to the adult females, but are lighter in colour, and the wing-coverts, scapulars, and innermost secondaries are tinged with brown. Length about 25 in.

AMERICAN WIDGEON

Anas americana (*Gmelin*)

The American Widgeon is a very rare autumn migrant to the British Isles, only one or two examples of this species having occurred in this country at long intervals. It inhabits Western Arctic America, migrating southward in winter to Central America and the West Indies. It may be distinguished from our Widgeon by the forehead and crown being dull white, the cheeks and neck whitish, speckled with brown, and a green stripe passing backwards from the eye. The female has the head and neck yellowish white, speckled with black. Length about 22 in.; wing 10·25 in.

WIDGEON

Anas penelope (*Linnæus*)

The Widgeon is best known as a winter visitor to these islands, large numbers arriving in autumn, and frequenting

estuaries, bays, and tidal waters. It is also found during winter on expanses of fresh water inland. Although feeding on marine insects and crustacea, it is chiefly a vegetable eater, living almost entirely upon *Zostera marina* when on the coast.

In Scotland a good many pairs remain to breed, and during summer it frequents high moorlands and inland waters. The nest is built in a tuft of rushes or among heather. The note is a melodious whistle, which may be expressed as "whee you."

The male has the head and neck chestnut, with a broad buff stripe extending backwards over the crown; back grey, uniformly vermiculated; throat and upper neck chestnut; breast white, vermiculated on the flanks; shoulders white; speculum green. In the "eclipse" plumage, the head is dark chestnut, grizzled with brown; back brown, with chestnut edgings to the feathers; flanks chestnut; under parts white. The female is dark brownish grey above, paler on the wing-coverts, and white underneath. Length about 18 in.; wing 10·5 in.

COMMON TEAL

Anas crecca (*Linnæus*)

This is the smallest of our native species of Duck, and is locally distributed throughout our islands at all times of the year, but its numbers are largely augmented in winter by the arrival of vast flocks from abroad. It may be found in winter near the mouths of rivers and shallow estuaries as well as inland; its food consists of grain, insects, worms, slugs, and molluscs.

It breeds throughout our islands, but is more numerous in the north. The nest is generally placed at some distance from water on a dry moorland or grass field.

The male has the crown, nape, cheeks, and throat chestnut; an elongated patch of purplish green behind the eye, the

BERNACLE GOOSE

rest of the upper parts vermiculated with black and white except the rump and tail-coverts, which are black. Under parts white, the lower part of the neck and breast being spotted and sometimes of a yellowish tinge; flanks vermiculated with black. Speculum green and purplish black. Bill black, legs brownish grey. The female is mottled with brown and buff. The young resemble the female. The male in his "eclipse" dress, which is worn till late in the autumn, resembles the female very closely, more so in fact than is the case with any other species of duck. Length about 14 in.; wing 7·25 in.

AMERICAN GREEN-WINGED TEAL

Anas carolinensis (*Gmelin*)

This species has only occurred three or four times in these islands. It inhabits North America, migrating south in winter. The male differs from the Common Teal in having some greyish vermiculated feathers on either side of the breast, and the buffish-white lines on the face are very slightly defined. The female cannot be distinguished from our native species. Length 16 in.; wing 7·25 in.

BLUE-WINGED TEAL

Anas discors (*Linnæus*)

This American species has been taken at least once in the United Kingdom. The male has the throat, forehead, and crown dark lead colour, and a white crescent between the eye and the bill. Cheeks and neck dull lavender grey. Length 16 in.; wing 7·25 in.

GADWALL

Anas strepera (*Linnæus*)

The Gadwall is a scarce visitor to our shores, occurring irregularly along the east coasts of Scotland and England, but

it is not often seen in the west or in Ireland. In a few places in Norfolk, where it was first introduced, it breeds, and has of late years considerably increased both there and in the neighbouring counties. In habits it resembles the Mallard. Its white speculum is a distinctive mark when in flight.

On the Continent it nests in Central and Eastern Europe, its breeding range extending to the far north of Russia. It winters in the Mediterranean basin.

The adult male is greyish brown, with darker mottlings on the head and neck; back dark brown, with greyish markings; medium wing-coverts chestnut; greater coverts almost black. Under parts white, grey on the flanks and vent. Under tail-coverts black. The female is marked with dark brown and buff much like a Wild Duck, but is known by the white speculum. The young somewhat resemble the female. This species may be distinguished at all ages by the white speculum. Length 19 to 20 in.; wing 10·5 in.

PINTAIL

Anas acuta (*Linnæus*)

This species arrives in numbers in September and stays with us during the winter, not leaving our shores till April. For this period it is essentially a Shore-Duck, haunting shallow shores and estuaries, and feeding on aquatic vegetation, crustacea, and other animal life brought in by each tide. It is more abundant on the east coast than elsewhere, owing to the large tracts of shore suited to its habits, but it may be found in numbers in the west and in Ireland, wherever suitable localities exist.

It is only recently that it has been known to nest in this country, a small colony having made their home on one of the Scotch lochs. Elsewhere it breeds abundantly throughout Northern Europe, migrating southwards in winter.

COMMON SHELD-DUCK

The adult male has a brown head, greenish black on the nape. A white stripe runs down each side of the neck, merging into the white of the under parts. Back and flanks dark brown, mottled with grey. Wing-coverts buff; speculum bronze green; tail black, the two central feathers much elongated; under tail-coverts black; bill and legs slate-grey. The female is of varying shades of buff and brown, and has no long tail feathers. The elongated neck and general shape of this species is sufficient to distinguish it from others of its family. The young resemble the female, and moult at once into their full plumage in their first autumn. The eclipse plumage of the Drake, which is dark brown above and smoky grey below, is lost about October. Length about 24 in.; wing 11 in.

GARGANEY

Anas circia (*Linnæus*)

The Garganey is a summer migrant to the British Isles. It inhabits most parts of the Palæarctic region, with the exception of the extreme north. In winter it occurs as far southwards as the Malay Archipelago. The adult male has the back brown, glossed with green, and paler margins; scapulars elongated, and conspicuously marked in the centres with a white stripe; wing-coverts bluish, tinged with grey; speculum glossy green, with white margins on either side; quills and tail brown; crown and nape deep rich umber-brown, with a border of white; chin black; cheeks and throat rufous-brown; breast light brown, with crescentic bands of dark brown; abdomen white, with fine blackish vermiculations towards vent, and having two black crescents on each lower flank; irides hazel; bill blackish; legs and feet greyish brown. Length about 15 in.

SHOVELER

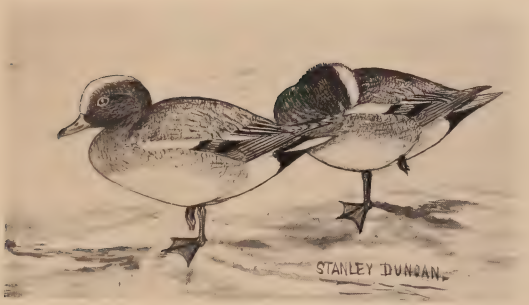
Spatula clypeata (*Linnæus*)

This bird is principally an autumn visitor with us, when large numbers come over from abroad, but a few are always found in the nesting season breeding with us. It is essentially an inland species, preferring small and sheltered pieces of water rather than wide open stretches. Its distinguishing feature is the large flattened bill. It feeds on the surface-swimming animalculæ and insects. The broad lamellæ of the mandibles form an efficient strainer. When feeding three or four will often follow each other in a circle, each feeding in the other's wake. It has become more numerous recently as a breeding bird, and it now nests commonly in the Broads and other districts of Norfolk and the eastern counties. In Kent and the Midlands, Yorkshire and the north it nests sparingly, as well as in some of the southern and eastern counties of Scotland. In Ireland it is a local but by no means rare species. Except in the breeding season it is a very silent bird ; when courting it moves its head up and down, uttering a low "took, took," which is answered by the female. The nest is generally placed at some distance from the water in the middle of a dry grass field, where there is hardly any cover beyond a small patch of grass more luxuriant than the rest.

During the summer the Drake assumes an "eclipse" plumage, which somewhat resembles that of the Duck. In October he begins, *unlike* most other species, to assume an "intermediate" plumage, in which the head is very dark but not metallic, and the white of the breast is hidden by dark transverse bars. He does not assume his full plumage till the end of February or early in March.

In these isles our breeding birds are practically resident, and are only driven from their nesting-quarters by frost. The

MALLARD



WIDGEON

majority of birds met with, however, in winter are immigrants from the Continent, who leave us again early in the year.

The adult Drake in full plumage is a beautiful bird. The head and upper neck are metallic green; lower neck, breast, and scapulars white; back brown; shoulders pale blue; greater wing-coverts white. The under parts are deep chestnut; speculum green; bill black; legs orange. Length about 20 in.

The Duck is dark brown, with light rufous buff edgings to the feathers. Shoulders bluish. The young at first resemble the Duck, and in November begin to assume the "Intermediate" plumage described above, except that the breast feathers are spotted and not barred. It does not always assume its full plumage in the first year.

MALLARD OR WILD DUCK

Anas boschas (*Linnæus*)

The Mallard is a resident species in the British Isles, and is our commonest and most beautiful Duck. It is, perhaps, not so abundant recently owing to the drainage of fen-lands; but this species still makes its home in most of the marshes in our islands.

It feeds chiefly by night on worms, aquatic insects, water weeds, and grain, and prefers ditches overgrown with weeds or shallow ponds to open stretches of deep water. It chooses its nesting site in early spring, usually on the ground and at no great distance from water, but occasionally it has been known to nest in trees, faggots, stacks, and other elevated places.

In the wild state the Mallard, as the male of this species is called, is strictly monogamous, and during the whole of incubation he will remain near the nest to warn his mate of the approach of danger, and accompany her when she comes off to feed. When the young are hatched he retires to some secluded

and sheltered piece of water, and assumes a duller plumage, somewhat like that of the female. During this time he becomes very skulking, and rarely shows himself on the open water. When his dull or "eclipse" plumage has been assumed, he casts all his flight feathers at once, and for a short time becomes incapable of flight. They grow again, however, in about a fortnight, and in September he begins to don his own brilliant colours once more, and comes from seclusion to join his comrades. In the winter they retire in large flocks to open sheets of water or the sea, flighting every evening to the marshes and shore in search of food, and retiring again at dawn to rest on the water.

These daily movements of Duck are known to sportsmen as "flights," and they afford excellent shooting to the gunner concealed on their route. Vast numbers of this and other species of Duck were formerly taken in decoys, but partly owing to decrease in the number of the fowl, or still more to the increase of shooters, who frighten them away, few decoys are now worked profitably in this country. A decoy is a pond in a suitable locality near the sea surrounded by trees and having two or four curved arms known as "pipes" running up at different corners. These pipes are covered with netting, and end in a small bag net. The Duck are enticed up by the tame birds, and by means of a red dog that they follow out of curiosity. They do not see the decoy man, who has hitherto been concealed, until well up the pipe, and rather than turn back and face him, they rise and fly up the pipe into the net. In order not to startle the other birds on the pond, these proceedings must be carried out quite silently, their comrades remaining unaware of their fate. For the successful working of a decoy absolute quiet and a plentiful supply of food are necessary. In Holland decoys are still in use, where they prove a considerable source of profit to their owners; their number is limited, and a licence has to be paid for each decoy.

COMMON TEAL

As soon as the brood can fly the Duck loses her primaries and becomes incapable of strong flight for a short time, but as soon as her quills are grown the whole family move off to join the flocks, which are now rapidly forming. We are visited yearly by large numbers from abroad, which increase still more if the winter be unusually severe.

The male has a glossy green head and neck, the latter being encircled by a narrow white ring; rump and centre tail feathers glossy black, the four central coverts curled; chest and breast deep chestnut-red; rest of under parts greyish white, vermiculated with brown; bill yellowish; legs and feet orange. The Duck has the general coloration buff of various shades. The young resemble the female, but the males assume their full dress in October. The male in "eclipse" has a plumage which resembles that of the female. Length 23 in.; wing 11 in.

COMMON POCHARD

Fuligula ferina (*Linnæus*)

Diving Ducks, of which the Pochard is a typical species, may be recognised by having the legs placed farther back on the body, thus rendering their progress on land rather difficult, and by the hind toe being lobed.

The Pochard is a fairly common winter visitor to our shores, occurring in most seasons, but being in some years much more numerous than in others. It also inhabits the Palæarctic region, but does not occur in the extreme north and east. Its haunts are chiefly along the sea-shores, feeding on crustacea, molluscs, and a certain amount of marine or aquatic weeds, which it procures almost entirely by diving, but it is by no means entirely confined to such localities, and is frequently met with on inland waters, provided they are of sufficient size. In spring the majority leave us for their breeding haunts on the Continent, but as a breeding species with us it is on the

increase, and may be found in a certain number of favoured localities throughout England and Scotland. In Ireland, where it is fairly abundant during the winter, it has only been known to nest on a few occasions.

The note of the male is a low whistle, but both sexes utter an alarm-note, which may be syllabled as "curre."

The adult male in summer dress has the head and neck rich chestnut; the breast and upper parts brownish black, the latter being finely freckled with grey. Under parts greyish white. Bill black, with a broad band of slate-grey across it. Legs bluish grey. In its eclipse plumage the head becomes much browner, and the chest is brown, faintly barred with lighter. The female has the head, neck, and chest dull brown; the chin whitish, the rest of the plumage being like the male, but duller. The young resemble the female. Length about 18 in.; wing 8·25 in.

RED-CRESTED POCHARD

Fuligula rufina (*Pallas*)

The Red-Crested Pochard, whose nesting home is in South-Eastern Europe, though it also nests sparingly in the Rhone Delta and Spain, is only a rare irregular visitor to these islands, the examples chiefly coming from Norfolk, where as recently as 1906 a flock of eight appeared, and needless to say were soon all shot.

It is a much larger bird than the Common Pochard, and may be distinguished by its rufous crest, red bill, and legs, though differing also in many other particulars. Length about 21 in.; wing 10·5 in.

FERRUGINOUS DUCK

Fuligula nyroca (*Güldenstädt*)

This species has been seen in this country on a good many occasions, though some of the examples may have been

PINTAIL

escaped birds. It has also been obtained in Scotland and Ireland. It breeds fairly abundantly throughout Central and Southern Europe, where it is resident.

The male has the head, neck, and upper breast rich chestnut brown, the rest of the upper parts brown, under parts white. The female is duller ; it may always be recognised by the white irides. Length 16 in. ; wing 7·75 in.

TUFTED DUCK

Fuligula cristata (*Leach*)

This species is the commonest of our Diving Ducks, occurring in fair numbers on our low-lying coasts and nesting in increasing numbers on many of the inland waters throughout England, Scotland, and Ireland.

In winter, in general with most ducks, large numbers arrive from abroad, and may be found in shallow bays, estuaries, and inland waters in company with other species.

In food and habits it is not unlike the Pochard, and is very good eating after it has been frequenting inland waters for some time.

The adult male has the crest, head, and neck purplish black ; speculum white. Under parts, including the flanks, snow white. Bill slate grey ; eye golden yellow ; legs bluish. In the eclipse plumage it becomes much browner, somewhat resembling the female.

The female is sooty brown above and greyish brown below, and her crest is much shorter than that of the male. At the end of summer she becomes white round the base of the bill for two or three months, but individuals vary very much in this respect. The young resemble the female, and have a whitish forehead. Length about 15·25 in. ; wing 8 in.

SCAUP DUCK

Fuligula marila (*Linnæus*)

The Scaup is a common visitor to these shores in the winter, when it arrives in large numbers. It breeds in the far north of Europe. It feeds on molluscs, crustacea, and small fish, which are plentiful on our low, flat, alluvial shores, and goes about in large flocks. Although obtaining much of its food by diving, it is also fond of feeding on the soft ooze left bare by the receding tide. The note is a harsh "scaup."

It is only during the last two or three years that it has been proved beyond doubt to nest in a particular district in Scotland, where it is strictly preserved.

The male has the whole of the head, neck, breast, and upper parts black, the mantle being thickly vermiculated with white. Under parts white; bill greyish blue; eyes pale yellow; legs bluish. The female has those parts which are black in the male dull brown, and the vermiculations on the back are whitish and very scanty. There is a white band round the base of the bill. The young resemble the female, but the feathers round the base of the bill show much less white. Immature drakes do not acquire their full plumage for two or three years. Length from 17 to 19 in.; wing 8·5 in.

GOLDEN-EYE DUCK

Clangula glaucion (*Linnæus*)

Inhabiting Northern Europe, this species as a rule arrives here in October, and may be found occasionally on inland rivers and lakes, as well as in estuaries, becoming more numerous in the north.

It feeds and lives in much the same way as the Scaup Duck, but its nest is placed in holes of trees at some dis-

SHOVELER

tance from the ground, the old hole of a Black Woodpecker being frequently made use of in Scandinavia. The Lapps, in order to obtain the eggs of this and other kindred species, place nest-boxes in the pine and birch woods, the majority of which are tenanted by this species. It has never been known to nest with us.

The male has the head and upper neck glossy greenish black, with a conspicuous white oval patch under each eye; the rest of the upper parts, except the scapulars, black; scapulars, a large wing patch, and under parts white. Bill bluish black. Legs yellow, with black webs. The female is smaller in size and lacks the white on the face. The neck and breast are greyish. The young in first plumage are similar to the female. Length from 17 to 19 in.; wing 8·25 in.

LONG-TAILED DUCK

Fuligula glacialis (*Linnæus*)

Like many other of our Ducks, this is a species which breeds in the north and only migrates to this country in winter. It is fairly numerous in the north of Scotland and neighbouring islands, and there is some proof that it may occasionally have made its home in the Shetlands. On our east coast mature and immature examples are regularly shot, especially in severe winters, and this has occurred also in the north of Ireland. It is much rarer over the rest of our islands.

With most diving ducks, its food consists of crustaceans and molluscs, and during the winter it is rarely found inland; in the nesting season, however, it lives on small meres and ponds, feeding chiefly on aquatic vegetation.

In its plumage this species is somewhat peculiar. It assumes in October a black-and-white plumage, in which the head and neck are white except for a brownish grey patch on the cheeks and an oval patch of dark brown on each side of

the neck. The upper parts, breast, wing-coverts, and central tail feathers, which latter are much elongated, are brown. The scapulars, secondaries, outer tail feathers, and under parts white. Bill at basal half and nail black, with pinkish band; legs and feet deep slate grey. In April, just previous to the breeding season, the white portions of the upper parts are changed, and become of various shades of brown or tawny. The female lacks the elongated tail feathers, is duller, and has the white portions brownish; in other respects she resembles the Drake and undergoes similar changes of plumage. Length, inclusive of tail, 25 in.; without central tail feathers, about 22 in.; wing 8·8 in.

COMMON SCOTER

Fuligula nigra (*Linnæus*)

The Common Scoter is an autumn and winter visitor to the British Isles. A few pairs are found breeding very locally in Scotland and Ireland. It inhabits also the whole of the northern Palæarctic region.

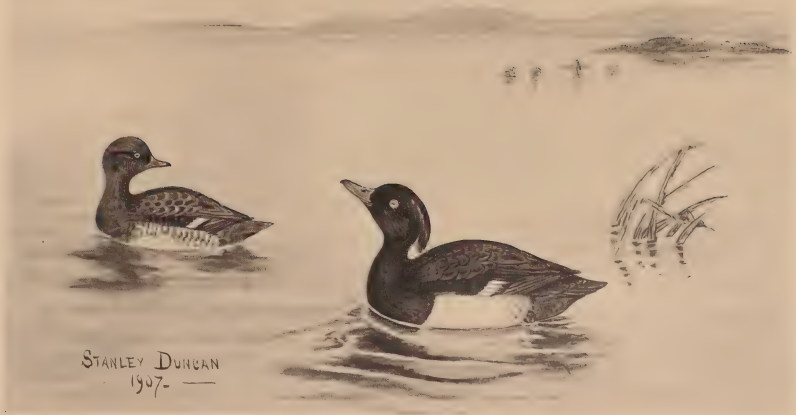
The adult male is glossy black, with the central ridge of the upper mandible deep yellow, based with a black protuberance. The adult female is dingy brown. The young are similar to the adult female, but the under parts are mottled with whitish. Length 18–20 in.

VELVET SCOTER

Fuligula fusca (*Linnæus*)

This species is a fairly common autumn and winter migrant to the British Isles. It generally keeps well out to sea.

It is a rather larger bird than the Common Scoter, and of a dense velvety black, with a small white spot behind each eye and a white bar across the wing. The adult male has the whole of the plumage black (glossed above and duller



TUFTED DUCK

beneath), with the exception of a spot behind the eye and speculum, which is pure white. The bill is orange-yellow, with a large black basal knob and a narrow dark line along the culmen. Legs orange. The female is brown, rather lighter underneath, and has a dull white patch before and a smaller one behind each eye. Bill dark. Legs reddish. Length about 22 in.; wing 10·75 in.

SURF SCOTER

Fuligula perspicillata (*Linnæus*)

This North American species is a rare straggler in autumn and winter to these isles.

The adult male in summer has the plumage velvety black with a tinge of brown on the throat, and may be known from other Scoters by the presence of a broad patch of white on the forehead and another on the nape. In the female the nape patch is present, though often so faintly marked that it can hardly be seen. There is no white bar across the wing. Length about 21 in.; wing 9·5 in.

BUFFEL-HEADED DUCK

Clangula albeola (*Linnæus*)

This species is a very irregular winter migrant to the British Islands, and only two or three examples have been obtained in this country. It inhabits the Northern Nearctic region. It bears a distant resemblance to the Golden-eye, but is considerably less in size; but the male may be recognised by the presence of a large triangular white patch on the side of the head behind the eye. The female is a dull-coloured bird of various shades of brown, and has also a white patch behind the eye. Length 15 in.; wing 6·75 in.

EIDER DUCK

Somateria mollissima (*Linnæus*)

The common Eider is a resident in the British Islands, but is only known to breed in England in one locality, viz. the Farne Islands, Northumberland; but over the rest of our coasts, excepting Scotland, it is rare, and only met with occasionally. It is also found inhabiting the northern portions of the Western Palæarctic region.

In food and habits it calls for no special comment. This bird is noted for the down with which its nest is lined, and for this reason is very strictly protected in many places abroad. The down in the first two nests is seldom allowed to remain, but the Duck is allowed to hatch after lining the nest a third time.

The Drakes are extremely handsome. The head and neck are black, with a white line running backwards from the crown to the nape, which is green. The cheeks, back, wing-coverts, and long sickle-shaped secondaries (characteristic of the Eider Ducks) white. Wings, rump, and tail black; breast warm buff; rest of under parts black; bill and legs greenish. In the "eclipse" plumage the whole of the head and white portion of the body (except the wing-coverts) become dull brownish black. The female is principally brown and black. Length 23 in.; wing 11 in.

HOODED MERGANSER

Mergus cucullatus (*Linnæus*)

The Hooded Merganser is a rare nomadic autumn and winter migrant to our shores. It is a North American species. Its distinguishing feature is a semicircular black crest and a broad patch or bar of white behind the eye. The adult female has the crest reddish brown, and is rather smaller in size than the male. Length 19 in.; wing 7·75 in.

COMMON EIDER

RED-BREASTED MERGANSER

Mergus serrator (*Linnæus*)

The Merganser is a winter visitant to England, and nests in both Scotland and Ireland, both on lakes and tarns. On the west coast of Ireland it breeds abundantly, and is very common all over that country. Its mode of living is very much like that of the Goosander, but is not so often found inland and is far more fond of the sea. The male apparently helps the female in attending on the young and in procuring the food on which they live.

This species is very like the Goosander but smaller; the male may always be recognised by his pale chestnut breast, streaked with black; the wing patch is white, barred with black, and on the breast at the point of the wing there is a conspicuous tuft of white feathers, with black edgings; mantle, portion of shoulders, inner scapulars, basal half of greater wing-coverts, secondaries and primaries rich black. The female is smaller than the male, and is reddish brown on the head and neck; a black bar runs across the alar speculum. In other respects it closely resembles the female Goosander. Length about 22 in.; wing 9·5 in.

GOOSANDER

Mergus merganser (*Linnæus*)

This bird is a winter visitor to the British Isles. Unlike other Ducks, the bill is moderately long and narrow, and both mandibles have a very rough toothed surface enabling them easily to secure and hold their prey, which consists entirely of fish. They are all expert divers. On the east coast of England a fair number of this species may be found in the winter months, frequenting estuaries and freshwater lakes, but in the south and west it is of rare occurrence.

In Scotland it is known to nest in a few localities, but on the west coast and in Ireland it is decidedly rare. The nest is placed in a hollow among rocks, or in a tree, and in Sweden and Lapland it makes extensive use of the nest-boxes put up for it and other species by the Lapps. The note is a very harsh "kaar," and when swimming this bird is not unlike a Cormorant in general outline. When wounded it will always attempt to escape by diving.

The male has the head and neck dark glossy green and purple; back and scapulars brown, passing to grey on the rump; wing coverts white; lower neck and under parts creamy white, tinged with pink in the living bird. Bill and legs red. The female is chestnut on head, greyish on the upper parts and flanks, and buffish white below. She is rather smaller than the male. The young resemble the female. Length about 26 in.; wing 11 in.

SMEW

Mergus albellus (*Linnæus*)

This species, the smallest and scarcest of the Sawbills, is a rare straggling autumn and winter migrant to these isles, its breeding haunts being near the limit of tree growth throughout Northern Europe. It may be found on inland rivers and lakes, as well as in sheltered bays and estuaries on the coast. Immature examples with a red head are far more numerous than the adults, and old males in full plumage do not often occur.

This is one of the species that occupies the boxes in Sweden and Lapland, and the discovery of its eggs fifty years ago was due to the energy and perseverance of an Englishman, John Wolley, who, after about four years' search, succeeded in obtaining three eggs together with a sitting bird.

The adult male is entirely white, except for the mantle and quills, which are jet black. The rump, upper tail-coverts, and

RED-BREASTED MERGANSER

tail are bluish grey, and the flanks delicately vermiculated with the same colour. Extending half-way across the breast is a narrow black bar, and a shorter but broader one begins a little further back. There is a black patch between the bill and the eye on either side, and another high up on the occiput joining its fellow on the opposite side, this black crescent being broken by the overlapping of the slightly elongated feathers of the head.

The eclipse plumage is very like that of the immature male, from which it may always be distinguished by the mantle remaining black. The female is smaller; head and neck reddish brown; remainder of upper parts and breast ashy grey; under parts white. Length from 16 to 17 in.; wing 7·6 in.

SPOONBILL

Platalea leucorodia (*Linnæus*)

This species at one time was known to breed in several localities in England, but these have long been deserted. It, however, still occurs during migration, and a few visit the Norfolk Broads yearly in spring, where, as they are now strictly protected, it is to be hoped that they may once again be induced to nest. It still nests in Holland, but in other districts where it used to be found it appears to have died out as a breeding species, and is now restricted to more southern localities, such as the south of Spain, the Danube, and the Black Sea.

The whole of the plumage is white; gular pouch orange; bill black, with yellow tip; legs black. The sexes are alike in plumage, but the adult female is a trifle less, and the crest is not so much developed. The young may be distinguished by the black ends to the quill feathers and the flesh-coloured bill. The adult plumage is not fully assumed till in the second or third year. Length about 32 in.; bill 8·5 in.; wing 14·5 in.

COMMON BITTERN

Botaurus stellaris (*Linnæus*)

Owing to drainage and cultivation, the Bittern, which used formerly to breed in various swamps and reed-beds, especially in our eastern counties, is now only a casual visitor to the British Isles in winter and spring.

In the breeding season it utters a loud "booming" noise, but at other times is a very silent bird.

The adult has the upper parts more or less buff, irregularly barred and streaked all over with brown and dark brown, except on the head, which is pure black; rest of plumage streaked and marked with chestnut buff and brown; bill greenish yellow; legs and feet greenish. Sexes and young are alike in plumage. Length from 25 to 28 in.; wing 13 in.

LITTLE BITTERN

Ardetta minuta (*Linnæus*)

This species is abundant in summer throughout Central and Southern Europe, migrating to Africa for the winter months. It is a spring and autumn migrant to the British Islands and a casual visitor to Northern Europe. It is frequently found in our eastern and southern counties, and there is little doubt that it has on more than one occasion stayed to breed. It inhabits thick reed-beds, and when disturbed either creeps away with great speed through the vegetation or remains motionless with head erect, in which position it closely resembles the reeds.

The male has the crown, nape, back, shoulders, and tail feathers glossy greenish black, the rest of the plumage buff streaked with brownish on some of the feathers at side of chest and flanks, and paler on the wing-coverts. The female has the crown, nape, and back brown. The young resemble the female. Length from 12 to 13 in.; wing 6 in.

AMERICAN BITTERN

Botaurus lentiginosus (*Montagu*)

This bird is a rare abnormal spring and autumn migrant to the British Islands and inhabits the Nearctic region but not the extreme north. The first specimen, curiously enough, was killed in Dorset, although it is a purely American species.

It is similar in general coloration of plumage to the Common Bittern, but may be distinguished by its smaller size, darker coloration, and uniformly brown primaries. The bill, legs, and feet are also more slender than those of *Botaurus stellaris*. The female resembles the male, but is less in size. The young show more rufous in the coloration.

COMMON HERON

Ardea cinerea (*Linnæus*)

The Common Heron is a resident species in the British Islands, migrating locally in winter. It also inhabits most parts of Europe, Asia, and Africa, with the exception of the extreme north of the two former continents.

The adult male has the upper parts ashy slate colour, under parts white, boldly marked with elongated spots of black. The head is furnished with an occipital crest. The feathers of the back and breast are elongated, and form fine pendant plumes. The female is similar to the male. Immatures are dull in plumage, and have a short head crest. Length 32–37 in.

STONE-CURLEW

Œdicnemus crepitans (*Temminck*)

The Stone-Curlew is a summer visitor to this country. It may therefore be called an almost local species, commonest perhaps in Norfolk and Suffolk; it is found on the downs

of most of the southern and eastern counties, but in the west of England, Scotland, and Ireland it has only very rarely been reported.

Sandy brown in colour, it assimilates so well with its surroundings that it is very difficult to see, and when approached will often "squat," stretching its neck out to its fullest extent, and so escape observation. It runs with great rapidity and flies strongly, its flight being not unlike that of a Pigeon, while the white bars on the wing-coverts show up conspicuously. Its food, which is chiefly taken at dusk and dawn, consists of insects of all kinds, especially beetles.

Living as it frequently does in districts away from water, it journeys nightly to a favourite watering-place. The note is a loud whistling cry, which is uttered at night, and during the early spring these birds are very noisy.

Both sexes assist in the duties of incubation and rearing of the young, who, when first hatched, are pale buff with a longitudinal dark line down each side of the back. Their legs are much thickened, a feature common to many limicoline birds, and this has led to this species being sometimes known as the "Thick-Knee." In August old and young gather together in flocks and migrate soon afterwards, though occasionally specimens have been known to pass the winter in this country.

The sexes are alike in plumage. The upper parts are of a uniform sandy brown, with dark streaks down the centres of the feathers, some of the wing-coverts being tipped with white to form two narrow bars. Neck and breast pale brown streaked with darker. Throat and belly white. There is also a white stripe under each eye. Bill yellow, with a black tip; legs greenish yellow. Length, roughly, 16 in.; wing 9·25 in.

SHORE BIRDS—GODWITS AND CURLEWS

LAPWING

Vanellus cristatus (*Wolf and Meyer*)

No wild bird has, perhaps, to pay so large a tribute in eggs and individuals to man, and yet remains as common and abundant, as the Lapwing.

In early spring he appears on the marsh or water-meadows, where he or his parents before him have been accustomed to spend the summer; sometimes dry fields at some distance from the water are chosen, but as a rule it is never far from a river, stream, or even a moderate-sized pond. Although many pairs often nest in the same field, fierce battles take place between the males for their chosen mates, but there is more "show" than strife, lengthy aerial chases with much calling out, but very little serious fighting. After these early differences have been overcome, the colony settles down in peace, a few ousted pairs being left to seek new ground.

When the young are full grown, at about six weeks old, they collect in large flocks and wander over the country. In October and November enormous flocks come over from the Continent and settle often for three weeks or a month in a particular field, which is usually resorted to yearly by these birds. In winter they wander about in search of suitable food, but with the first warm days of February they return north, and March finds them back once more in their summer home.

The male has the upper parts of a beautiful metallic green, the crown of the head and crest being almost black. Quills black, tipped with grey on the three outer pairs; tail feathers white, with a broad subterminal band of black on all save the outer pair; breast black; under tail-coverts chestnut; rest of under parts white. In summer the chin and throat are black. The female is duller in colour than the male; the crest is rather shorter, and the outline of the extended wing is straighter. Length 12·5 in.; wing 8·75 in.

The young bird shows no black on throat; crest also short.

SOCIABLE PLOVER

Vanellus gregarius (*Pallas*)

This species is found inhabiting South Russia and the Aralo-Caspian area. Until a few months ago, when a second example was procured in Kent, it had only once (in 1860) been taken in England.

The general colour above is drab; crown of the head black, margined with white. Quills black; secondaries white; tail white, with a subterminal brown band. Chin white; throat buff; breast brown; belly black; flanks and under tail-coverts deep chestnut. Length 12 in.; wing 8 in.

KILLDEER PLOVER

Ægialitis vocifera (*Linnæus*)

This bird is a very rare abnormal migrant to the British Islands, and only two examples of this American species have been shot in England. It inhabits the Nearctic region with the exception of the extreme north. It is a larger bird than any of our other Ringed Plovers, which it somewhat resembles, but it may be distinguished from its British allies by the lower back, rump, and upper tail-coverts being rufous, a black subterminal bar and white tip to all the tail feathers except the central pair, and the presence of two narrow black bands across the breast. Length 9·5 in.; wing 6·5 in.

RINGED PLOVER

Ægialitis hiaticula (*Linnæus*)

The Ringed Plover is a common spring and autumn coasting migrant to these isles.

Few people can have walked along our shores without having their attention attracted by the plaintive whistle of this delightful little bird. When it flies past, the dark ring stands out in contrast to its white breast, while as it gets farther away

DUNLIN AND RINGED PLOVER

another distinguishing feature is a light line extending along the outstretched wing. It is a bird difficult to see on the ground, especially if among stones and shingle, while its continuous note, seeming to come from all directions and from the stones themselves, is most confusing.

At all times of the year when we can find this bird on our shores, whatever be the weather—amidst a howling winter's gale and driving sleet, or under the blazing summer's sun, when we can see the heated air quivering over the burning stones, he is still there, apparently absolutely unmoved by the all-powerful forces of nature. But the time to see him at his best is in May: we are walking along, when suddenly his well-known note strikes our ears, and we see him running along in front of us; we sit down to watch him, and he in his turn will suddenly stop, and then running to some stone slightly higher than its neighbours, stand up and watch us. His mate soon joins him, and together they stand, now running a few yards and then turning round to give us another look, while they bob their heads up and down at the same time with a motion so characteristic of the Plovers. Finally, seeing that we do not go away they both get up and, calling out as they do so, fly off; but in a minute or so one of them is back again, sitting and watching us from his old stand. They have evidently a nest somewhere near.

One step, and there on the bare stones are four pear-shaped eggs lying closely together. The birds, finding that their treasure is discovered, circle round us, calling out repeatedly till we pass on, leaving the hen to resume her duties.

The sexes are alike in plumage. General colour above pale sandy brown, below white. Forehead white, followed by a black band; lores and band across chest black. Legs bright yellow; beak black, yellow at its base. Length 7.5 in.

The young resemble the adults, with the exception of the

black band on the forehead ; the chest band is brown concolorous with the upper parts. The legs olive yellow.

LITTLE RINGED PLOVER

Ægialitis minor (*Wolf and Meyer*)

This species breeds in Scandinavia and throughout Europe, being rather scarcer in the West. To our shores it is only a very irregular spring and autumn migrant, not more than half a dozen authenticated instances being known.

The plumage of the adult closely resembles that of the ringed plover, but this bird is rather smaller in size, and can readily be distinguished by having the shafts of the quills all dusky with the exception of the outer one, which is white. The bill also is narrower and longer in proportion and wholly black. Length about 6 in. ; wing 4·5 in.

KENTISH PLOVER

Ægialophilus cantianus (*Latham*)

The present species, unlike the Ringed Plover, is one of our rarest shore-birds and is only a summer visitor. It cannot be seen unless a special journey is made to that lonely stretch of shore which is its only home in these islands. In its mode of life it is almost the counterpart of the Ringed Plover, but is a true migrant, arriving in April and leaving in September. The note is a short monosyllabic whistle and quite distinct from that of the preceding species.

It is a smaller bird than the Ringed Plover, which it otherwise resembles, except that the dark band across the chest is broken in the centre. Female and young resemble the male, but the band on forehead and chest is brown instead of black, and of the same colour as the upper parts. Length about 6 in. ; wing 4·25 in.

CASPIAN PLOVER

Ægialophilus asiaticus (*Pallas*)

The Caspian Sand Plover is a very rare irregular spring migrant to the British Isles.

Two examples of this eastern Plover, which inhabits the South Central Palæarctic region, were obtained near Yarmouth in May, 1890.

It resembles our Common Ringed Plover, but does not show the black markings on the head, and the band across the breast is bright chestnut, edged along its posterior margin with black. Length about 7 in.; wing 5·6 in.

GOLDEN PLOVER

Charadrius pluvialis (*Linnæus*)

The home of the Golden Plover is on the lower slopes of mountains, and hill-land moors, for the Golden Plover prefers the cover afforded by the tall heather.

As we walk up the hill we first hear his shrill whistle, and soon see him coming to meet us. He settles some way ahead of us, whistling continuously, but at our approach he flies on to some other projecting boulder, and so on for perhaps half a mile, till, having accompanied us to the limits of the ground over which he claims suzerain rights, he hands us over to the ruling chief of the next territory. Thus in a walk over the hillside we find one of these birds always travelling with us, whose cry is never out of our ears. We have, however, only noticed half the game, for the birds that have been accompanying us are almost always male birds; his duty it is to stand on some exposed mound while his hen crouches amid the heather on her precious eggs, four pear-shaped beauties, the black spots and markings showing up against their greenish ground colour. As soon as any intruder approaches he will sound his pipe and fly off towards us, while his mate

quietly leaves her eggs and, flying low, circles round till we see her apparently coming up from a direction diametrically opposed to that in which her treasures lie. It will be hopeless for us to lie in wait for her return to the nest, unless we are completely concealed, for the male will keep a close eye upon us, and until he is quiet she will not return. When the young are hatched both birds meet and follow us, while in response to the warning the young squat close to the ground, under cover of some piece of heather, and so escape detection. In autumn these birds collect in large flocks, and though many remain on the moors all the year round, the majority come to the marshes near the sea and gradually pass southwards.

The sexes are alike in plumage, but the female generally shows less black underneath. The whole of the upper parts are dark brown, with two or more yellow spots on the margins of each feather. The throat and breast are black, bordered by a clear-cut white line. Bill and legs black. In winter the black on the throat and chest is replaced by white, with pale brownish mottlings across the latter. Length about 10 in. ; wing 7·5 in.

The young in first plumage have the breast suffused with yellowish, and flanks profusely mottled with brown. It is generally distributed throughout these islands, breeding commonly on the moorlands, and becoming much more numerous in Scotland.

LESSER GOLDEN PLOVER

Charadrius dominicus (*P. L. S. Müller*)

This species is subdivided into two forms, one of which is found in Eastern Asia, while the other is an inhabitant of North America.

Examples of both these forms have been shot in the United Kingdom, although the American form, as might be expected, has occurred the more frequently of the two.

Both these forms may be distinguished from our common

species, which they closely resemble, by being smaller and in having the axillaries smoke-grey instead of white. Length about 9 in. ; wing 6·75 in.

GREY PLOVER

Charadrius helveticus (*Brisson*)

In general appearance this bird resembles the Golden Plover, but white takes the place of the yellow spots, and the hind toe is lacking. He is a common spring and autumn migrant to the British Isles ; he passes the winter in the warm tropics of Africa, wandering southwards as far as the Cape, and then, obeying some mysterious impulse of which we can form no conception, he journeys in May northwards, and passing over many spots which would to our ignorant eyes afford him food and shelter sufficient for the rearing of his young, he seeks out the wild and lonely tundras of Europe and Siberia.

There during the eternal day of an Arctic summer he rears his family, and as soon as they can fly, old and young are back again on our shores. For some weeks they remain, slowly passing to the south, and, unlike the Golden Plover, rarely coming inland ; but by the middle of October they are all back enjoying once more the burning sun of the tropics.

The white tail-coverts and absence of the hind toe, as well as the black axillaries, will prevent any confusion between this species and the Golden Plover. Length 11·5 in. ; wing 7·75 in.

AVOCET

Recurvirostra avocetta (*Linnæus*)

The Avocet is a rare spring and autumn migrant to the British Isles, and inhabits the southern Palæarctic region and Ethiopian region. The adult has the cheeks and neck and rest of plumage white, with the exception of the head, nape, most part of hind neck, outer scapulars, middle wing-coverts, and primaries, which are black ; irides chestnut-brown ; bill

black; legs and feet pale blue. Length about 18 in. The adult female resembles the adult male, but the colours are duller. The young have the black parts of the plumage washed with brown and margined with rusty.

CURLEW

Numenius arquatus (*Linnæus*)

The Curlew is a resident in the British Isles, changing quarters locally according to climatic conditions. In the winter it is essentially a shore-bird, moving about in large flocks, which may be found in the fields and pasture-lands near the coast; these flocks journey to the shore twice daily to feed on the mud or rocks left bare by the ebbing tide. In April it leaves the coast to nest on the heath-covered moors, and though it breeds in large numbers in Scotland it is well distributed in the north and west of England and Ireland. It is found in summer in Northern Europe and occurs during winter in Africa.

It is extremely wary, rising on wing at the least alarm and calling out its loud "cour lie," which may be heard a considerable way off. Its food consists of worms, slugs, snails, and other insects, and when on the shore, small fish and crustacea are devoured.

The general colour is a pale brown with dark streaks; rump, vent, and upper tail-coverts white. In winter the under parts are very pale in colour, almost white. The female is larger than the male, and the young are very similar to adults but show more rufous, and the markings beneath are more profuse. Length about 20 in.; bill 4·7–6·75 in.; wing 11·5–12·25 in.

WHIMBREL

Numenius phæopus (*Linnæus*)

This species is a summer visitor to the British Isles, breeding sparingly in North Scotland. It usually passes us going

northwards in May (hence its name May-bird), and is on the return in August. It is absent in winter from the British Isles, except in South-West Ireland, where odd specimens occur at this season. Its note is a tittering whistle, from which it has in some parts gained the name "titterel." In appearance it is very much like a common curlew, but may always be distinguished by its smaller size and shorter bill, the latter never exceeding $3\frac{1}{2}$ in. in length.

ESKIMO CURLEW

Numenius borealis (J. F. Forster)

This bird lives in Arctic America, and some eight or nine examples have been procured in the British Isles.

It is rather like a small Whimbrel in appearance, but it may be identified by the absence of barring on the primaries, no white on the rump, transverse arrow-head markings on the under parts, and the axillaries being chestnut barred with brown. Length 14 in. ; wing 8·25 in.

RED-NECKED PHALAROPE

Phalaropus hyperboreus (Linnæus)

The Phalaropes are delightful little birds of aquatic habits, and form a splendid instance of how similar environment tends to the production of similar structure. They may be easily recognised from other limicoline or wading birds by their very close feathering, especially on the breast, and their lobed feet, while in the Grey Phalarope especially the bill is somewhat flattened, so that in these birds we find a tendency towards the flattened bill as in Ducks, lobed feet as in the Grebes, and the peculiar thick feathers on the breast characteristic of Petrels and Gulls. The Phalaropes have also another peculiarity unique among British birds, although shared by several other groups in different parts of the world, namely, that the duties of incubation and rearing of the

young are conducted entirely by the male bird, and in correlation with this habit the female does all the courting and is brighter in plumage.

This delightful bird may now only be found nesting in one or two spots in Scotland, and as an autumn and winter visitor it is decidedly rare and very seldom found inland during the winter months. It has not occurred in Ireland. When with us it can generally be seen swimming in some sheltered tidal pool or in one of the ditches of the marsh close to the sea-wall. Its food consists of small insects and crustacea. At its breeding haunts it is extremely tame, running about within a few feet of the intruder.

The female takes no notice of the nest after the laying of the last egg, the male from that time assuming all duties in connection with the young. Frequently the female at the beginning of the breeding season is accompanied by more than one male, so that it is probable that polyandry exists in this group, as it has already been proved to do in other cases where the courting is undertaken by the female.

The call-note is a low "wit, wit, wit." In summer the head, neck, and shoulders are lead-grey, the back and wings darker, with a mixture of pale rufous. A bar across the wings white. Sides and front of the neck chestnut; breast lead-grey; chin and rest of under parts white. The male is a little smaller in size and duller in coloration than the female. In winter the forehead, crown, and under parts are white, feathers of the back grey, with white margins. The young have rufous margins to the feathers of the back, but otherwise resemble their parents in winter dress. Length about 7 in.; wing 4·4 in.

GREY PHALAROPE

Phalaropus fulicarius (*Linnæus*)

This species only appears as a rare nomadic spring, autumn, and winter migrant on our south-eastern and south-

ern shores, though it has been obtained both in Scotland and Ireland. In winter it migrates down to the Equator. In food and habits it resembles the Red-necked Phalarope, but its breeding range is more northerly, and it is in fact circumpolar. It is very tame, and may be approached very closely as it swims in shallow sheltered places a few feet from the edge of the shore, beach pools, or inland ponds, where it happens to be.

It generally comes to us in autumn, when it is wearing the grey plumage, which is grey on the back and white beneath, with a white forehead and a black streak running backwards through the eye. Bill black. The adult male is less in size, and in summer is duller in colour than the female, and the young similar but buffish on the chest.

A few solitary examples are sometimes seen in nuptial dress during the spring or very early autumn. In this plumage the head and back are black, with rufous margins to the feathers; cheeks white; under parts chestnut. Bill yellow. Length about 8 in.; wing 4·9 in.

OYSTER-CATCHER

Hæmatopus ostralegus (*Linnæus*)

The Oyster-Catcher—often called Sea Pie—is a resident species in these isles, and is met with in Northern Europe as well as Central Asia.

One cannot fail to notice these birds, which in winter collect in large flocks along the shore, often sitting on a sand-bar and seemingly daring the tide to reach them. They sit there till the water is just about to wet their feathers, then they all rise as though of one mind, and, shrieking out their shrill call as they go, pass along to the next promontory which will afford them dry foothold for a few minutes longer. Such is the Oyster-Catcher, and his life is as restless as the tide itself near which he lives. He is a common and abundant

bird throughout the year on all our coasts, its food consisting principally of mussels and limpets, which its powerful wedge-shaped bill enables it to detach from the rocks. It also feeds on crustacea and marine insects. Early in the spring large flocks begin to break up into pairs.

The nest is generally made on the shingle or the top of a low rock just above high-water mark, but where the rocks are steep and precipitous it is placed on the top of the cliff, some distance above the sea-level. In Scotland they sometimes nest inland along the river banks.

The head and neck, scapulars and mantle, lesser wing-coverts and tip of the tail are brilliant black, the rest of the plumage white. Bill orange, getting richer in colour towards base; legs whitish pink. The sexes are alike, and in winter there is a white crescent round the throat, and the bill is horn-coloured at the tip. The bill is continually growing and so counteracting the wear and tear to which it is subjected. Length about 16 in.; wing 9·75 in.

RUFF

Machetes pugnax (*Macgill*)

The Ruff at one time bred with us, but is now chiefly a spring and autumn visitor. In summer the males don an ornamental ruff around the neck. In coloration these "Ruffs" vary considerably, there being white, brown, cinnamon, and black examples commonly met with. The female, known as the Reeve, is smaller than the male, and has not a ruff at any time. In their breeding habits they are said to be polygamous. The young birds of the year occur regularly with us in early autumn, and are in the majority males. Reeves are about the size of a Redshank, but are rufous-brown above, and white tinged faintly with cinnamon below. Young Ruffs are like the Reeves, but are larger. Length: Reeves, 10·5 in.; Ruffs, 11·75 in.

LITTLE STINT

COMMON SANDPIPER

TURNSTONE

Strepsilas interpresis (*Linnæus*)

Although never known to breed with us, adults of this species are to be found on our shores throughout the year. It is, however, chiefly a spring and summer migrant to our islands. The Turnstone has a variegated brown and white plumage, enriched in summer with chestnut and black on the back. The under parts are white. Length 9 in.

CURLEW SANDPIPER

Tringa subarquata (*Guldenstadt*)

The Curlew Sandpiper is a common spring and autumn migrant to the British Isles. It breeds in the North Polar regions. It is a trifle larger than the Dunlin, from which it may be distinguished at all times by the white of the upper tail-coverts. In summer the breast is chestnut. The bill is longer and more decurved than that of the Dunlin. Length 7·75 in.

COMMON SANDPIPER

Totanus hypoleucus (*Linnæus*)

The Common Sandpiper is a summer visitor to the British Isles, and also inhabits the Palæarctic region. It breeds on our high country streams, and is found everywhere with us on migration. The adult has the upper parts sandy greenish brown, finely barred; under parts white, ticked with brown. The young of the year are paler in plumage and show light marginal markings to the feathers of the upper parts. The species reach us in April and leave in September. Length 7 in.

LITTLE STINT

Tringa minuta (*Leisler*)

This is the smallest of our shore-birds. It is a yearly spring and autumn migrant along our eastern and southern coasts,

but on the west it is very irregular in its appearance and decidedly rare. It inhabits the north-western Palæarctic region; it spends its winters in the tropical regions of the Old World.

In its habits and food it closely resembles the Dunlin, but is easily identified by its much smaller size.

In plumage it is practically a miniature Dunlin, but it does not boast any black on the breast. Length 5 to 6 in.; bill 0·7 in.; wing 3·55 in.

TEMMINCK'S STINT

Tringa temmincki (*Leisler*)

Although nesting much nearer to our shores than the Little Stint, this species is a rare spring and autumn visitor to this country. It breeds commonly in Norway as far south as Trondhjem, and eastwards across Russia beyond the limit of tree growth. In winter it moves eastward as far as India.

In appearance it is not unlike a very small Common Sandpiper, whereas the Little Stint resembles a small Dunlin. It may, however, be further recognised by the shaft of the outer primary being nearly white, and the two outer tail feathers being quite white. Length about 5 in.; bill 0·6 in.; wing 3·8 in.

AMERICAN STINT

Tringa subminuta minutilla (*Vieillot*)

This species has only occurred in this country on two or three occasions. It is considered by some naturalists to be merely a local race of Little Stint, and only differs from it in its rather smaller size and darker colour. Length about 5 in.; wing 3·5 in.

SANDERLING

Tringa arenaria (*Linnæus*)

The Sanderling is a common coasting autumn and spring migrant to the British Isles. It breeds in the high north. In

size it is similar to the Dunlin, but has a slightly shorter bill, which is straight and not decurved. The plumage of the upper parts is ashy grey in winter, changing to rufous cinnamon in spring. The young have the feathers of the mantle dark brown, edged with white. In all stages of plumage the under parts are white. Length 7·5 in.

DUNLIN

Tringa alpina (*Linnæus*)

The Dunlin, or, as it is sometimes called, the Ox-bird, is a resident species in this country, and is the most numerous of all our shore-birds. It is also found inhabiting the Palæarctic region and some portion of the Nearctic region. At all times of the year and round all our coasts it may be seen running about and feeding on the animal life to be found among the rocks or in the soft muddy ooze recently left by the ebbing tide. It is almost always found in flocks, which are often made up of thousands of individuals, and when driven from one place they may be seen twisting and turning on the wing in graceful flight, preparatory to settling again on some rich feeding ground. It is most absurdly tame on occasions, so that it is possible to walk right among a flock, which will continue feeding or resting as though unconscious of the presence of an intruder. Suddenly an individual will sound the little alarm-note, and the whole flock will rise as though governed by one mind, even those who were asleep flying off in full possession of their faculties as though they had been on the alert all the time. In summer many leave us to nest in Northern Europe, while others betake themselves to inland moors or salt marshes round the coast on which to breed. It cannot be called a common nesting species with us, but it has been found in suitable places throughout the British Isles, becoming more numerous in the north.

Its winter dress is grey above and white below, with a whitish bar across the extended wing.

In spring the crown of the head is rufous, streaked with black. Mantle black, with broad rufous margins; the neck and throat white, streaked with black; breast black; belly white. The sexes are alike in coloration, the female being usually slightly the larger. Length from 6 to 7 ins.; bill 1 in.; wing 4·5 in. This species, however, varies greatly in size. Some naturalists define two, or even three, races of Dunlin.

The young in autumn have the back nearly black, the feathers having narrow buff and rufous margins; the under parts are white, buff across the breast, and thickly spotted, especially on the lower breast, with black. The amount of spotting, however, as well as the colour of the breast, varies greatly in individuals.

KNOT

Tringa canutus (*Linnæus*)

The Knot is a common migrant to our shores. In winter it often flocks in immense numbers on our mud-flats. It is supposed to breed in all suitable places in the North Polar Basin. The adult in summer has the mantle variegated with black, chestnut, and white. The throat, fore-neck, and breast are chestnut. In winter the under parts are white, the mantle ashy grey. Immatures are like adults in winter, but show conspicuous light marginal markings on the feathers of the back. Length 9 in.

REDSHANK

Totanus calidris (*Linnæus*)

The Redshank is a common resident in suitable localities throughout our islands. It also inhabits the Palæarctic region, but wends its way to Africa to pass the winter.

In winter it occurs abundantly round all our coasts, and

causes much annoyance to shooters from its habits of flying up on the least alarm and warning all the other less wary fowl with its shrill "tui too too."

During the nesting season this bird becomes very noisy, and if the nesting site be approached, especially after the young are hatched, they fly round the intruder or sit on some bank, calling out vigorously all the time. It is a most interesting sight to take a sporting dog near the young birds and watch the way in which time after time the parents will decoy the dog away by fluttering under his very nose until they have led him to what they consider a safe distance, when they will spring in the air and with a cheery note return to their brood. This habit is common to many species of ground-nesting birds, but unless we take a keen hunting dog with us we shall fail to realise what an excellent device it is for safeguarding the young from mammalian vermin. The food and habits of this species call for no special comment, as it does not greatly differ from its congeners.

In winter the adult is greyish brown on the back; secondaries nearly white; rump and under parts white, with a few dark streaks on the neck and breast. Bill reddish with a black tip; legs red.

In summer the upper parts are yellowish brown barred and spotted with blackish, the under parts white, profusely streaked on the neck and sides of the breast with ash-brown, the flanks being barred with the same colour. Length about 11 in.; bill 1·8 in.; wing 6·25 in.

The female resembles the male, and the young may be recognised by the feathers of the mantle having buff spots and the legs being yellow.

The white secondaries are very conspicuous in flight.

SPOTTED REDSHANK

Totanus fuscus (*Linnæus*)

The Spotted Redshank is a rare spring and autumn migrant, and also occurs occasionally in winter. In Scotland, Ireland, and the west of England it is almost unknown, but in the eastern counties a few probably appear every year on passage, but their stay is of such short duration that they are often unnoticed. Most specimens secured with us are birds of the year.

It inhabits the north of Scandinavia and Russia, laying its eggs in very dry situations at a considerable distance from its marshy feeding ground. The young are, however, taken to the marsh as soon as they are hatched.

In summer the male has the upper parts black mottled with white, except the rump and upper tail-coverts, which are white, barred with black. Under parts black. Bill black, red at base of lower mandible; legs and feet deep red. The female at this season often has a white chin. In autumn the upper parts and neck are ashy brown mottled with white; under parts white. The young differ from the autumn plumage of the adults in having the chin white and the rest of the under parts thickly barred with ash-brown. Length about 12 in.; wing 6·6 in. This species lacks the white wing bar seen in the Common Redshank.

GREENSHANK

Totanus glottis (*Linnæus*)

The Greenshank is a summer migrant to these isles, although it is said that a few remain in Ireland during the winter.

He is a wild and restless bird, and constantly utters his clear "tui-tui" when on the wing. As a rule he is more partial

to ditches filled and emptied at every tide than a broad, flat expanse of mud, and by walking quickly along a ditch he may often be closely approached and watched as he probes the soft ooze for worms, shrimps, sand-hoppers, or anything that may come handy. At the least sign of danger, however, he is off, calling out as he rises and displaying a very conspicuous white rump. Although fond of the society of others of his kind, his wild flight soon breaks up the family party, and by the time he reaches our shores in August and September it is reduced to twos and threes. The abundance of food on the shore has not been without its effect, and he is at this time of year exceedingly fat—doubtless a wise provision, as both old and young are moulting and migrating, which must be a serious tax on their system. Their sojourn with us is short, and by the beginning of October most of them have gone, and their ringing "tui-tui" no longer enlivens the shore. In April they will return, but they are then anxious to reach their summer home, and brief as is their visit in autumn it is still shorter in spring, and we must travel to Scotland or farther north to see them in their homes.

The adult in summer has the back and secondaries black, some of the feathers being margined with grey; rump white; head and neck white, tinged with grey and streaked with dark brown. Under parts white, with a few blackish streaks on the throat and upper breast. In winter the back is greyer and the under parts are pure white. The female has the upper parts less conspicuously marked than the male. The young are browner on the back, and have the feathers on the back margined with tawny, and chest and flanks pencilled finely with dark grey. Length about 13 in.

BLACK-TAILED GODWIT

Limosa melanura (*Leisler*)

During the first half of last century this species used to nest in small but diminishing numbers in the fens and marshes of Lincolnshire and East Anglia. The Black-tailed Godwit is one of our regular coasting migrants to the British Islands, and is found inhabiting the Western Palæarctic region.

They feed on insects and worms, which in this country are chiefly sought for in marshes near the shore. The adult male in nuptial garb has the crown reddish brown, with streaks of black ; forehead, superciliary stripe, and chin whitish ; cheeks, throat and breast, chestnut, the latter barred with blackish. Wings deep brown, with a well-defined white bar, and the tail feathers are white at base ; black on the terminal half.

In spring they have the mantle brown, mottled with black ; head, neck and breast pale chestnut, the latter being barred with black. The female is larger than the male. The young in their first autumn resemble their parents, but the neck and upper breast are tinged with buff. Length 16 in. ; bill 3·5 in. ; wing 9 in.

BAR-TAILED GODWIT

Limosa lapponica (*Linnæus*)

When it migrates this species visits us in fair numbers, being found on low sandy shores and sheltered estuaries. A few remain throughout the winter, but by far the larger number pass on to Africa after a short stay. In May there is a return migration, especially along the east coast, many of the birds being then in full nuptial plumage.

It breeds in Northern Europe, and in winter it is found throughout Southern Europe as well as in Africa. Its note is a loud "louey, louey."

COMMON SNIPE

BAR-TAILED GODWIT

In autumn the sexes are alike, and the general colour is brownish grey above and white below. The tail feathers are brown with *no* bars, but the tail-coverts are barred always.

The young have a shorter beak than the adults, and are brown chequered with buffish above and dull buff below. The tail feathers are broadly barred.

In spring the male has the back with tawny markings, the head and neck chestnut with dark streaks. Whole of the under parts deep chestnut, the sides of the breast spotted with brownish black; rump white; tail whitish with brown bars. Length 15·5 in.; bill 2·75 in.; wing 8 in. The female is slightly larger and has very little of the ruddy tint.

WOODCOCK

Scolopax rusticola (*Linnæus*)

Although this species is a resident in the British Isles, we depend upon immigrants from abroad to swell its numbers in winter. It breeds throughout the temperate portions of the Palæarctic region.

The adults and young are closely alike, and have the upper parts chestnut brown, barred with black and ashy grey; under parts rufous, barred finely with brown. Bill 3·25 in.; length 15 in.

GREAT OR SOLITARY SNIPE

Scolopax major (*Gmelin*)

The Great Snipe is a rare spring and autumn migrant to the British Isles. A few birds, however, for the most part immature, visit our south and east counties yearly in autumn.

It breeds in Scandinavia and across Northern Europe, extending southwards into Russia, Poland, and North Germany; over the rest of Europe east of the Rhone Valley it is common on migration and during the winter months.

It may be distinguished from the Common Snipe by its larger size, proportionately shorter legs and bill, and more boldly barred under parts. It has sixteen or more tail feathers, whereas the former has only fourteen. The young in first plumage closely resemble adults. Length from 11 to 12 in.; bill 2·3 in.; wing 5·5 in.

COMMON SNIPE

Scolopax gallinago (*Linnæus*)

This bird is a common resident in these isles and is found wherever swamps, marshes, and damp meadows suitable to its habits are still left. Large additions to its numbers come from the Continent every autumn.

During the breeding season this species may often be seen "drumming" or "bleating." This is a sound much like the "bleating" of a goat, and considerable doubt as to how it was produced has long existed, although a Swedish naturalist stated many years ago that it was brought about by the rapidly vibrating tail feathers as the bird descended at a certain angle through the air. This has recently been clearly proved as correct by an English observer, Mr. P. Bahr, who points out that the sound is produced by the two outer tail feathers, which during the flight are held out widely separated from the rest of the tail. The sound can be produced artificially by placing these feathers on a cork and rapidly whirling them round with a piece of string. During the breeding season it utters also a loud vocal "chip, chip" when on the ground, while when suddenly flushed the alarm-note of "scape, scape" is well known. It flies very rapidly and straightly when once on the wing, but on first rising its flight is made in short zigzags, offering a very difficult shot. Sometimes, however, it will "squat" on the approach of danger, and even on a bare patch

of mud becomes almost invisible, so well do its colours harmonise with its surroundings.

Its method of "squatting" is rather peculiar, for it puts its beak down and its body and tail well in the air and generally pressed up against some growing vegetation. In this position the two light dorsal stripes appear like blades of grass, and all trace of the contour and shape of the bird is lost.

The sexes are alike in plumage. The general colour above is dark brown, with a light buff stripe across the crown and two stripes of a similar colour down the back, which is also mottled with buffish. Cheeks and chin are white, flecked with dark brown; chest and flanks ash-brown; rest of under parts white. The young resemble their parents, but show more uniformity in coloration of the upper parts. Length 10·75 in.; bill 2·5 in.; wing 5 in.

There is a dark variety of this bird, known as Sabine's Snipe, which is occasionally met with, especially in Ireland. It has the whole of the upper parts ash-brown, barred with black, and the light stripes on the back are absent. Intermediates between the normal and the true Sabines are not uncommon.

JACK SNIPE

Scolopax gallinula (*Linnæus*)

Breeding in the north-western corner of Europe as far east as Archangel, the Jack Snipe is a common autumn and winter visitor to this country, arriving towards the end of October and often not leaving our shores till well on in summer, but there is no authenticated case of its ever having bred with us. In habits it closely resembles the Common Snipe, but lies much closer when being "walked up," and then, rising at one's feet, goes off at a great pace. It is a more solitary bird than the Common Snipe, and a single one may often be found for a whole winter in the same spot.

During the breeding season it "drums" in the same manner as the Common Snipe, the noise having been compared to the cantering of a horse on a hard road.

It may always be distinguished from the Common Snipe by its smaller size and shorter bill. Length 7·5 in.

RED-BREASTED SNIPE

Ereunetes griseus (*Gmelin*)

Some half-dozen examples of this American species have been met with in England, all of them during the autumn months.

At this time of year, except in size and length of bill, it resembles a Dunlin; but in spring the under parts are chestnut, spotted on the breast and barred on the flanks with dark brown. The feathers of the back are black, edged and barred with rufous. Rump and upper tail-coverts white barred with black. The shaft of the outermost primary is pure white. Length about 10 in.; wing 5·5 in.

GREAT CRESTED GREBE

Podiceps cristatus (*Linnæus*)

We have often had to lament the extermination or decrease of many species, and it is a real pleasure to have to record that a fine species like the present has increased abundantly of late years.

This has been done chiefly by very strict protection, and although still a locally distributed resident, there are now many places where it is common, and in Scotland it breeds on several lochs as far north as Aberdeenshire. It nests also in parts of Ireland. It is practically a resident and may be found with us at all times of the year, but the majority leave their

summer haunts after the breeding season and make their homes along the coast. The food consists of fish, crustaceans, and any other living food which may be found.

This bird is, as a rule, to be seen swimming about in the centre of the open water, its long neck and low flat back enabling it to be easily recognised.

It flies well and strongly, appearing when on the wing rather like a Duck.

In winter it is dark brown above and white below, but in spring it assumes a chestnut frill which surrounds the face; the crown, forehead, and crests are greyish brown; the cheeks, chin, and a stripe over the eye white. Bill red; legs and feet olive.

The female resembles the male, but is rather duller. The young in their first plumage are much like the adults in winter. Length from 20 to 21 in.; wing 7·5 in.

RED-NECKED GREBE

Podiceps rubricollis (*Gmelin*)

This bird is a regular visitor to the British Isles on the east coast during winter, and in some seasons becomes quite abundant. It is rare, however, in other parts of our area, and only a very few are recorded as coming from Ireland. It is found in most parts of Eastern and Northern Europe, whence it migrates southwards throughout Europe in the winter. In habits and food it differs very slightly from the Great Crested Grebe.

The crown, nape, and hind part of neck are blackish, upper parts dark brown with a white patch on the secondaries.

Cheeks, chin, and throat ashy-grey; neck rich chestnut; rest of under parts white. Length from 17 to 18 in.; wing 7 in. The adult female in summer is similar in colour,

but slightly smaller in size. The adult in winter has the throat white, tinged with grey.

SCLAVONIAN OR HORNED GREBE

Podiceps cornutus (*Gmelin*)

The Sclavonian Grebe is a northern species, and is a straggling autumn and winter migrant to the British Islands. It inhabits the Northern Nearctic and Palæarctic regions, and visits our shores, especially in the east, annually. In the north of Scotland it is quite common. Ireland is also regularly visited on migration by it every year.

In summer the upper parts of the adult male are dark brown ; the crown, forehead, chin, and neck-ruff black, and a tuft of elongated feathers on each side of the head chestnut ; upper plumage, deep brown. Secondaries white, except the three outer ones, which are dusky like the primaries ; neck, breast, and flanks yellowish chestnut ; remainder of under parts white. In winter the crest is absent ; the under parts are white. The young resemble their parents in winter dress. Length from 12 to 13 in. ; wing 5·5 in.

BLACK-NECKED OR EARED GREBE

Podiceps nigricollis (*C. L. Brehm*)

This is a southern Grebe, stray visitors of which are met with occasionally in spring and sometimes autumn, and there is evidence that it may have nested with us on more than one occasion. It is rarely found in Scotland and Ireland.

The adult in spring has the head and neck black with a triangular patch of yellowish chestnut feathers on the ear-coverts ; upper parts dark brown ; under parts white ; flanks chestnut. All the secondaries white, and the four innermost primaries also show much white. Bill black and slightly re-

curved; legs and feet olive-green. In winter the ear tufts and black on the throat are lost, and at this season it closely resembles the preceding species, but the white on the primaries will always serve to distinguish it. Length about 12 in.; wing 5 in. The female is similar to the male.

LITTLE GREBE OR DABCHICK

Podiceps minor (*Brisson*)

The Little Grebe is a resident in the British Islands, in most parts of temperate Europe, and Asia. It becomes scarce in the north of Scotland. It must be fairly familiar to every one as a short, squat little bird that dives at the smallest alarm, only coming to the surface again some distance away, most often among the reeds and aquatic vegetation near which this bird is always found.

These birds are seldom seen on the wing, and hardly ever on land, but nevertheless they are well able to stand up and even walk when on shore.

In summer the plumage of the adult, except for the cheeks, throat, and sides of the neck, which are chestnut, is dark brown all over, rather lighter on the under parts.

In winter the chin, neck, and under parts are nearly white. The female is similar to the male. The young show more brown above. Length from 8 to 10 in.; wing 4 in.

The species of birds met with by the wildfowler may be said to be almost innumerable. We have described those forming the wildfowler's quarry and many species which often come before him. All the common and a few of the rare sporting species of wildfowl and shore birds have been described. While including several other birds, mention must be made that to enumerate herein all those which may come before the fowler's notice is beyond possibility. No

mention has been made of the many species of gulls, terns, skuas, cormorants, divers, etc. etc., simply because they are not sporting birds, and consequently seldom shot by the sportsman, either by accident or out of curiosity. To those wildfowlers who wish to become conversant with all the species of birds they may come across, we recommend a comprehensive work on the subject of ornithology.

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			1 7-16	7-16
			1 3-8	7-16
10	2⅝	49	1 5-16	3-8
			1 1-4	3-8
			1 3-16	7-16
12	3	52	1 1-2	3-8
			1 7-16	7-16
			1 3-8	1-2
12	2¾	47	1 1-4	3-8
			1 3-16	7-16
			1 1-8	1-2

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	in.	grs.	oz.	in.
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			1 3-8	7-16
			1 5-16	1-2
10	2⅝	38	1 1-4	7-16
			1 3-16	7-16
			1 1-8	1-2
12	3	42	1 7-16	7-16
			1 3-8	7-16
			1 5-16	1-2
12	2¾	37	1 1-4	3-8
			1 3-16	7-16
			1 1-8	1-2

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The Wildfowlers' Association of Great Britain and Ireland consists of a body of those interested in the sport of wildfowling, having a president, vice-presidents, hon. members, executive members, patrons, ordinary members, and professional members—*i.e.*, professional wildfowlers.

The aims of the Association are to uphold the legal rights of its members as wildfowlers, to foster a mutual understanding amongst shooters with regard to certain acts of courtesy or etiquette of sport; to amass information of general value relating to various and different wildfowling quarters, and acquire grounds for its members by rental where possible; to create a spirit of sportsman-like respect; to suppress jealous shooting; to encourage an interest in wildfowl ornithology and to assist students of the subject; to record all proceedings and periodically publish same amongst its members.

The objects of the Association are to uphold and protect the rights of wildfowlers. Attempts will be made to beneficially regulate the close and open seasons for wildfowl by approaching County Councils in such a way that they may be induced to petition State Secretaries to legalise their desires.

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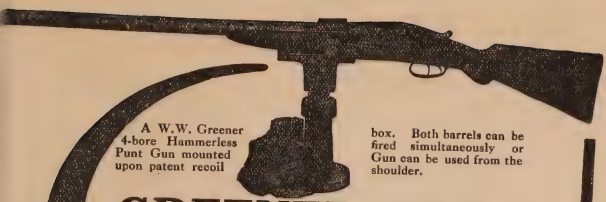

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Letters

New Wildfowler coincidences

SIR,—As a build-up to the launching of "The New Wildfowler in the 1970s," two items from recent articles in *Shooting Times* strike me very forcibly.

Firstly, J. K. Stanford in his article on "Flukes" (Oct. 17) mentioned Lord Montgomery, who, strange enough, had related in a radio programme the same week that the greatest change in his outlook to life came in the 1920s when he had read a book by Guy Thorne. Most wildfowlers will know that it was Guy Thorne who collaborated with my father in producing the original "Complete Wildfowler."

Then, when Colin Willock wrote about Tony Jacklin (Sept. 26), it reminded me of the time when I took my father to view the almost extinct Ashby Duck Decoy, which was surrounded by the Scunthorpe Golf Course, where Tony Jacklin had started his most successful golfing career. It had been my father's intention to reconstruct the decoy as a ringing station for WAGBI, but he was too old.

It was when the "Complete Wildfowler" was out of print and out of date, that "The New Wildfowler," a more comprehensive book, came into being, now to be followed by an even more compendious work in keeping with Conservation Year and modern times. Let us hope that it has the success of "Monty" and "Tony."

STANLEY DUNCAN,
Hull.